Input Output

(Direction 1 – 5): Study the given information carefully and answer the following questions.

A word arrangement machine when given an input of words, rearranges them following a particular rule in each step. The following is an illustration of input and steps rearrangement.
INPUT: Mobile Bag Plate Charger Mouse Box
STEP 1: Bag Mobile Plate Charger Mouse Box
STEP 2: Bag Box Mobile Plate Charger Mouse
STEP 3: Bag Box Charger Mobile Plate Mouse
STEP 4: Bag Box Charger Mobile Mouse Plate
This is the final arrangement and step 4 is the last step.
As per the rules followed in the given steps, answer the questions given below for the following input.
Input: Rent Dear House Bear Colony

1. **What would be the last step of the following input?**
   1) Bear Colony Dear House Rent
   2) Dear Bear House Colony Rent
   3) Rent Dear House Bear Colony
   4) Bear Colony House Rent Dear
   5) Bear Colony Dear Rent House

2. **How many steps are there?**
   1) 3
   2) 4
   3) 5
   4) 6
   5) Either 3 or 5
3. **Which comes exactly between "Colony" and "House" in the final step?**
   1) Dear
   2) Bear
   3) Rent
   4) Either Bear or Rent
   5) None of these
4. **Which element is 3rd from the left in the final step?**
   1) Bear
   2) Dear
   3) Rent
   4) House
   5) Colony
5. **What would be the penultimate step of the given input?**
   1) Bear Colony Rent Dear House
   2) Bear Rent Dear House Colony
   3) Bear Colony Dear Rent House

4) Bear Colony Dear House Rent
5) None of the above

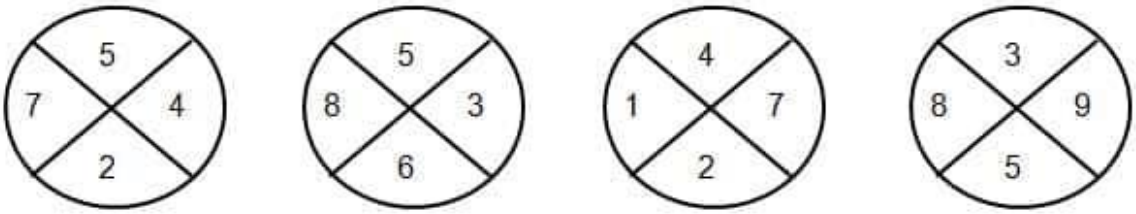
Solution

1) Bear Colony Dear House Rent
Solution:
Logic:
1) The rearrangement is taking place from left to right.
2) The rearrangement is taking place one word at a time.
In the following arrangement, words in each step are arranged in an increasing alphabetical order.
Input: Rent Dear House Bear Colony
Step 1: Bear Rent Dear House Colony
Step 2: Bear Colony Rent Dear House
Step 3: Bear Colony Dear Rent House
Step 4: Bear Colony Dear House Rent
Hence step 4 is the last step.

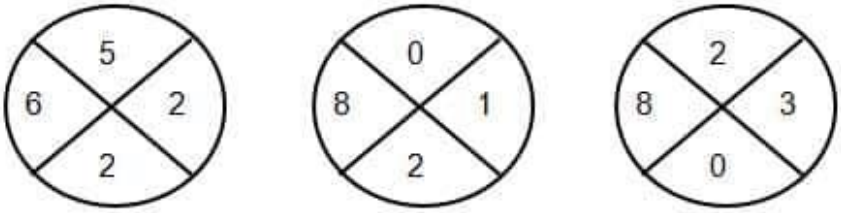
(Directions 6 – 10): Study the following information to answer the given questions.
Given below an input-output arrangement, steps responsive mathematical operations on a set of numbers according to which you need to answer the following questions. The same operation is used in all the steps.

Input Output

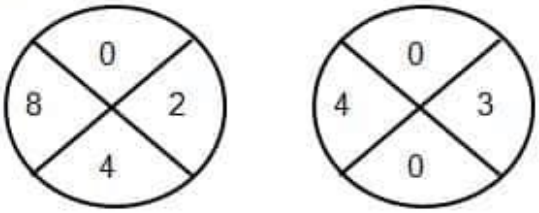
Input:



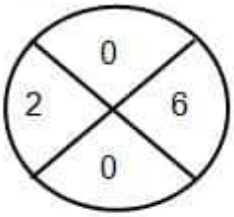
STEP 1



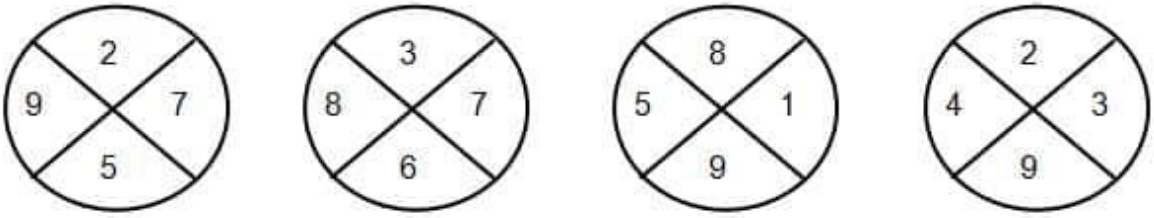
STEP 2



STEP 3



Similarly, find the appropriate step for the following input:



6. **If the numbers 3 and 6 are reversed in step 1, what is the difference between the old output and new output (you have to adding those 4 numbers of last step)?**
   1) Zero
   2) 1
   3) 2

4) 3
5) None of these

7. **If all the numbers in step 2 are added with each other and subtract by the answer obtained by added the numbers of step 3, what's the result?'**
   1) Zero
   2) 1
   3) 2
   4) 3
   5) None of these

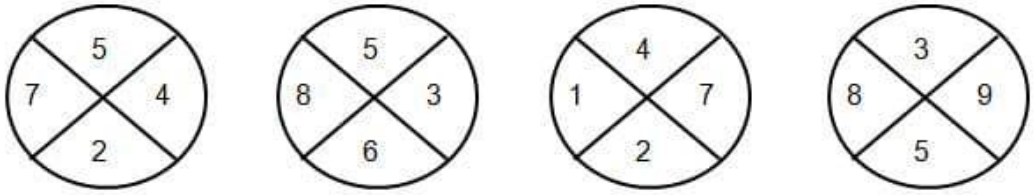
8. **How many elements in step 2 are multiples of 2?**
   1) Zero
   2) 1
   3) 2
   4) 3
   5) None of these

9. **What is the resultant if all the numbers of step 3 multiply with each other?**
   1) 18
   2) 6
   3) 3
   4) 0
   5) 12

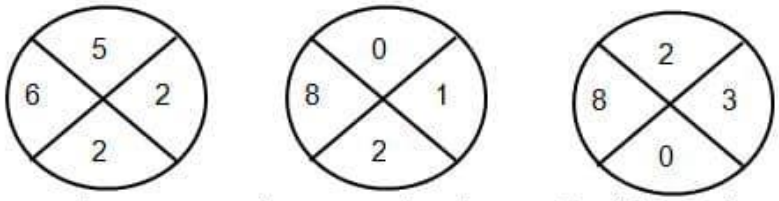
10. **What is the sum of all the numbers of step 1?**
    1) 42
    2) 40
    3) 39
    4) 35
    5) None of these
11. Answer – **2) 1**
    Solution:

Input Output

12.

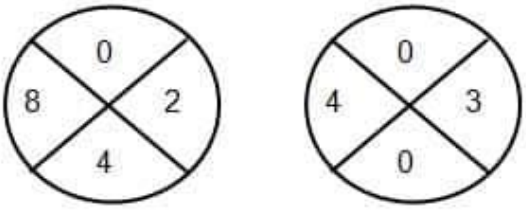


digit of that product represented in the first circle of step 1.
⇒ 5 × 5 = 25, so here we consider 5.
⇒ 7 × 8 = 56, so here we consider 6.
⇒ 4 × 3 = 12, so here we consider 2.
⇒ 2 × 6 = 12, so here we consider 2.
And the second circle is obtained by multiplying the corresponding elements from circle 2 and 3 similarly. Thus, third circle is obtained by multiplying the corresponding elements from circle 3 and 4 similarly.
STEP 1

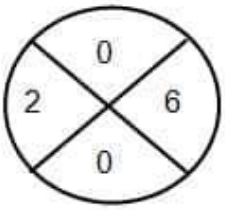


For obtaining step 2, the corresponding elements (digits) from circle 1 and circle 2 of step 1 are multiply and unit digit of that product represented in the first circle of step 2. And the second circle is obtained by multiplying the corresponding elements from circle 2 and 3 of step 1.

STEP 2



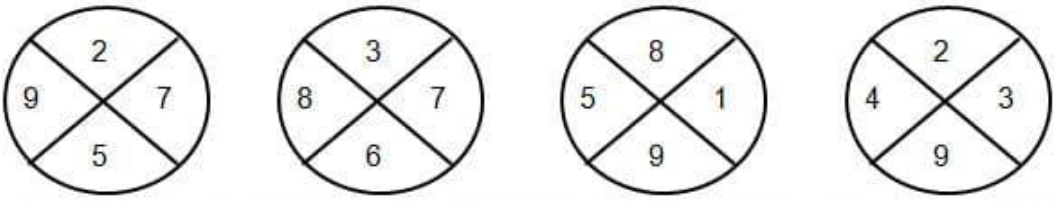
For step 3, the corresponding elements (digits) from circle 1 and circle 2 of step 2 are multiply by and unit digit of that product represented in the first circle of step 3.
STEP 3



This is the output of the above input.

Input Output

Now the given Input:



We see that in Step 1, the corresponding elements (digits) from circle 1 and circle 2 are multiply and unit digit of that product represented in the first circle of step 1.

$\Rightarrow 2 \times 3 = 6$, so here we consider 6.

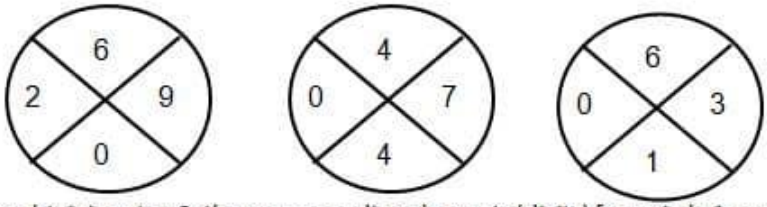
$\Rightarrow 9 \times 8 = 72$, so here we consider 2.

$\Rightarrow 7 \times 7 = 49$, so here we consider 9.

$\Rightarrow 5 \times 6 = 30$, so here we consider 0.

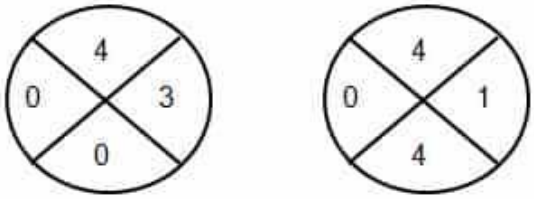
And the second circle is obtained by multiplying the corresponding elements from circle 2 and 3 similarly. Thus, third circle is obtained by multiplying the corresponding elements from circle 3 and 4 similarly.

Step 1:



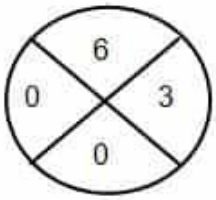
For obtaining step 2, the corresponding elements (digits) from circle 1 and circle 2 of step 1 are multiply and unit digit of that product represented in the first circle of step 2. And the second circle is obtained by multiplying the corresponding elements from circle 2 and 3 of step 1.

STEP 2:



For step 3, the corresponding elements (digits) from circle 1 and circle 2 of step 2 are multiply and unit digit of that product represented in the first circle of step 3.

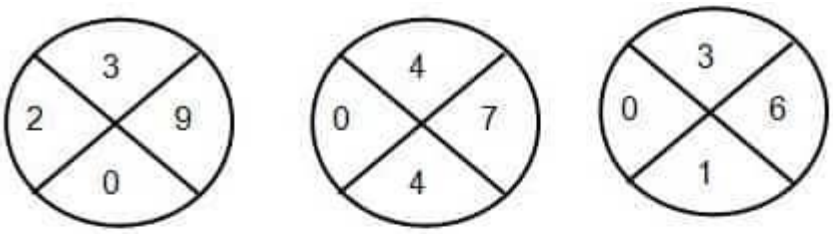
STEP 3:



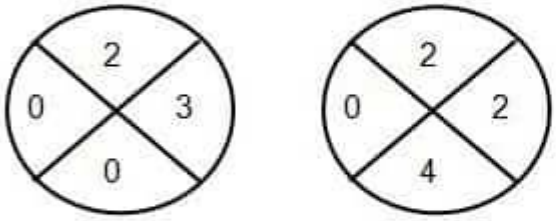
13. The result is = 6 + 3 = 9.

If the numbers 3 and 6 are reversed in step 1 then, Step 1 will be-

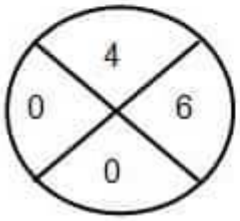
Input Output



Step 2 will be-



Step 3 will be-



If the numbers 3 and 6 are reversed in step 1 then, the result is = 6 + 4 = 10.
Hence, the difference is 10 – 9 = 1.

(Direction 1 – 5): Study the following information carefully and answer the questions given below.

A number arrangement machine, when given a particular input, rearranges it following a particular rule. The following is the illustration of the input and the steps of arrangement.

Input: 39 55 19 20 37 41 68 53
Step I: 19 39 55 37 41 68 53 20
Step II: 19 37 55 41 68 53 20 39
Step III: 19 37 41 68 53 20 39 55
Step IV: 19 37 41 53 20 39 55 68
Step V: 21 34 43 50 22 36 57 65
Step VI: 21 34 43 50 36 57 65 22
Step VII: 21 43 50 36 57 65 22 34
Step VIII: 21 43 57 50 65 22 34 36
Step IX: 21 43 57 65 22 34 36 50

And Step IX is the last step of the rearrangement as the desired arrangement is obtained.
As per rules followed in the above steps, find out in each of the questions the appropriate step for the given input.

Input: 25 58 47 33 23 73 64 61

1. **How many steps are needed to complete this arrangement?**
   1) X

2) XII
3) VI
4) VIII
5) IX

Answer

Answer – **5) IX**
Solution:
Logic:
Step I – Step IV: Prime numbers are arranged in ascending order from the left end and other numbers are arranged from the right end.
Step V: +2, -3, +2, -3….
Step VI-Step IX: Odd numbers are arranged in ascending order from the left end and even numbers are arranged from the right end.
Input: 25 58 47 33 23 73 64 61
Step I: 23 58 47 33 73 64 61 25
Step II: 23 47 58 73 64 61 25 33
Step III: 23 47 61 73 64 25 33 58
Step IV: 23 47 61 73 25 33 58 64
Step V: 25 44 63 70 27 30 60 61
Step VI: 25 44 63 70 27 60 61 30
Step VII: 25 27 63 70 60 61 30 44
Step VIII: 25 27 61 63 70 30 44 60
Step IX: 25 27 61 63 30 44 60 70
Step IX is the last step.
Hence, IX Steps are needed to complete this arrangement.

2. **Which of the following is fourth from the left end of Step VI in the above arrangement?**
1) 61
2) 80
3) 60
4) 70
5) None of these

Answer

3. **Which of the following represents the sum of the first and the last elements in the second last step?**
1) 50
2) 85
3) 100

4) 95
5) 115

Answer

4. **Which of the following is step V of the given input?**
1) 25 27 61 63 70 30 44 62
2) 25 44 63 70 27 30 62 61
3) 25 44 63 70 27 30 60 61
4) 25 44 63 70 27 60 61 30
5) None of these

Answer

5. **Which elements are there between 6th from the left and 6th from the right in step IV?**
1) 63, 70
2) 44, 59
3) 73, 25
4) 25, 62
5) 64, 73

Answer

(Directions 6 – 10): Study the following information to answer the given questions.
A number arrangement machine when given an input line of words and numbers rearranges them following a particular rule. The following is an illustration of input and rearrangement.

Input Output

Input:	15	11	18	14	16	06	19	13
Step1:	14		15		12		15	
Step2:		14		45		36		
Step3:			9		4			
Step4:				5				

Step 4 is the last step of the rearrangement. As per the rules followed in the above steps, find out in each of the following questions.

Input: 15 04 12 15 19 10 24 07

6. **What is difference between the sum of numbers of step 1 and the product of numbers of step 3?**
   1) Multiple of 5
   2) Multiple of only 3
   3) Multiple of only 4
   4) Multiple of both 3 and 4
   5) Multiple of 9

Answer

Answer – **4) Multiple of both 3 and 4**

Solution:

Input: 15 11 18 14 16 06 19 13

Here mathematical operation is followed in every step.

Step1: The average of first and last, then second and second last number and so on taken:

(15 + 13)/2 = 14, (11 + 19)/2 = 15, (18 + 06)/2 = 12, (14 + 16)/2 = 15.

Step2: First number is multiplied with difference with its next number:

14 × (15 – 14) = 14, 15 × (15 – 12) = 45, 12 × (15 – 12) = 36.

Step3: Second number is divided by sum of digit of its previous number:

45/(1 + 4) = 45/5 = 9, 36/(4 + 5) = 36/9 = 4.

Step4: Difference between numbers:

9 – 4 = 5.

Now, for Input:

Input:	15	04	12	15	19	10	24	07
Step1:		11		14		11		17
Step2:			33		42		66	
Step3:				7		11		
Step4:					4			

Sum of numbers of step 1 ⇒ 11 + 14 + 11 + 17 = 53.

Product of numbers of step 3 ⇒ 7 × 11 = 77.

Difference = 77 – 53 = 24.

As we can see 24 is multiple of both 3 and 4, therefore this is the correct option.

7. **Which number will appear in step four of given input?**
   1) 6
   2) 4
   3) 3
   4) 5
   5) 8

Answer

8. **What is the sum of numbers present in step 3?**
   1) 16
   2) 18
   3) 20
   4) 15
   5) None of these

Answer

9. **Which number is repeated twice in step 1?**
   1) 11
   2) 14
   3) 17
   4) 15
   5) 18

Answer

10. **Which of the following is largest number in step 2?**
    1) 33
    2) 42
    3) 55
    4) 66
    5) 70

(Directions 1 – 5): A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule in each step. The following is an illustration of input and rearrangement.

Input Output

Input: cold fold 14 yak 28 41 load 50 70 89 door sold
Step I: yak cold fold 14 28 41 load 50 70 89 door sold
Step II: yak cold fold 28 41 load 50 70 89 door sold 14
Step III: yak sold cold fold 28 41 load 50 70 89 door 14
Step IV: yak sold cold fold 41 load 50 70 89 door 28 14
Step V: yak sold load cold fold 41 50 70 89 door 28 14
Step VI: yak sold load cold fold 50 70 89 door 41 28 14
Step VII: yak sold load fold cold 50 70 89 door 41 28 14
Step VIII: yak sold load fold cold 70 89 door 50 41 28 14
Step IX: yak sold load fold door cold 70 89 50 41 28 14
Step X: yak sold load fold door cold 89 70 50 41 28 14
Step X is the last step for the given input.
As per rules followed in the above steps, find out in each of the following questions the appropriate steps for the given input.
Input: 46 22 great had 84 38 jack bold 55 93 made candle

1. **Which of the following is step VI?**
   1) made jack had great 84 bold 93 55 candle 46 38 22
   2) made jack great had 84 bold 55 93 candle 38 46 22
   3) made jack had great 84 bold 55 93 candle 46 38 22
   4) made jack had great 84 bold 55 93 46 candle 38 22
   5) made jack great had 84 bold 55 93 46 candle 38 22

   Answer

   Answer – **3) made jack had great 84 bold 55 93 candle 46 38 22**
   Solution: Words are arranged in reverse alphabetical order and numbers are arranged in descending order. In each step, one operation takes place.
   Input: 46 22 great had 84 38 jack bold 55 93 made candle
   Step I: made 46 22 great had 84 38 jack bold 55 93 candle
   Step II: made 46 great had 84 38 jack bold 55 93 candle 22
   Step III: made jack 46 great had 84 38 bold 55 93 candle 22
   Step IV: made jack 46 great had 84 bold 55 93 candle 38 22
   Step V: made jack had 46 great 84 bold 55 93 candle 38 22
   Step VI: made jack had great 84 bold 55 93 candle 46 38 22
   Step VII: made jack had great 84 bold 93 candle 55 46 38 22
   Step VIII: made jack had great candle 84 bold 93 55 46 38 22
   Step IX: made jack had great candle bold 93 84 55 46 38 22
   Hence, VI step is made jack had great 84 bold 55 93 candle 46 38 22.

2. **How many elements are there between 'great' and '55' in step III?**
   1) Six
   2) Four
   3) Three

4) Five
5) Seven

Answer

3. **Which word/number is fifth from the right end in step IV?**
1) 55
2) Bold
3) 93
4) Candle
5) 84

Answer

4. **Which of the following is the last but one step?**
1) made jack had great candle bold 84 93 55 46 38 22
2) made jack had great bold candle 93 84 55 46 38 22
3) made jack had great bold 93 candle 84 55 46 38 22
4) made jack had great candle 84 bold 93 55 46 38 22
5) None of these

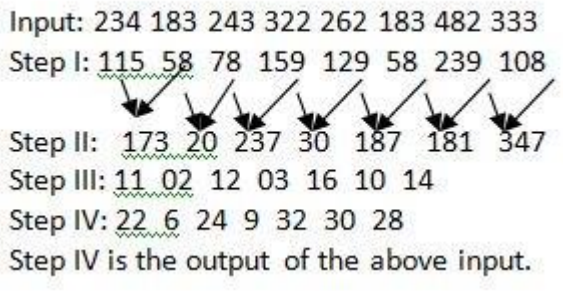
Answer

5. **Which step number is the following output 'made jack had great 84 bold 93 candle 55 46 38 22'?**
1) There will be no such step
2) XII
3) IV
4) V
5) VII

Answer

Input Output

Directions (6 – 10): Study the following information to answer the given questions
A number arrangement machine when given an input line of numbers rearranges them following a particular rule. The following is an illustration of input and re-arrangement.



As per the rules followed in the above steps, find out in each of the following questions the appropriate steps for the given input.
Input: 105 164 333 584 222 489 176 267

6. **Which of the following element is second to the right of the element which is sixth from the right end in step III?**
   1) 30
   2) 10
   3) None of these
   4) 33
   5) 28

   Answer

   Answer – **2) 10**
   Solution:
   Step I: Even number is divided by 2 and then subtract by 2, Odd number is divided by 3 and then subtract by 3
   Input: 105 164 333 584 222 489 176 267
   Step I: 32 80 108 290 109 160 86 86
   Step II: +, – , +, -, +, – , +,
   Step II: 112 28 398 181 269 74 172
   Step III: Sum of all the digits of each number
   Step III: 4 10 20 10 17 11 10
   Step IV: Odd Number is multiplied by 2, Even number is multiplied by 3.
   Step IV: 12 30 60 30 34 22 30
   Sixth from the right end in step III: 10
   Second to the right of element '10': 10

7. **Which of the following is the Middle element in the last step?**
   1) 30
   2) 66
   3) 36

4) 34
5) None of these

Answer

8. **What will be the resultant if third element from the left end in step II is multiplied by Second element from the right end in step III?**
1) 4278
2) 4378
3) 4468
4) None of these
5) 3378

Answer

9. **If all the numbers in the step IV are arranged in ascending order from left to right, then how many numbers are not changed from its previous position?**
1) One
2) Two
3) Three
4) None
5) More than Three

Answer

10. **What is the sum of all the numbers present in step III?**
1) 80
2) 90
3) 92
4) 82
5) 70

(Directions 1 – 5): A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule in each step. The following is an illustration of input and rearrangement.
Input: 32 69 56 88 47 94 54
Step I: 94 32 69 56 88 47 54

Step II: 94 69 56 88 47 54 32
Step III: 94 88 69 56 47 54 32
Step IV: 94 88 69 56 54 32 47
Step V: 94 88 69 56 32 47 54
Step V is the last step for the given input.
As per the rules followed in the above steps, answer the questions for the following input.

Input: 11 19 25 39 61 70 48 36

1. **Which of the following is the second last step?**
   1) 70 61 48 39 11 19 25 36
   2) 39 61 48 70 25 11 19 36
   3) 70 61 48 39 36 11 19 25
   4) 39 48 61 70 25 19 11 36
   5) None of these

   Answer

   Answer – **3) 70 61 48 39 36 11 19 25**
   Solution:
   By observing the given input and output, some numbers are arranged in descending order in left end and some numbers are arranged in ascending order in right end.. From one step to the next step one operation takes place.
   From input to step I, the largest number and second largest number is shifted to the left end.
   From step I to step II, the smallest number and second smallest number is shifted to the right end. This process is continued until we get the desired output.
   Input: 11 19 25 39 61 70 48 36
   Step I: 70 11 19 25 39 61 48 36
   Step II: 70 19 25 39 61 48 36 11
   Step III: 70 61 19 25 39 48 36 11
   Step IV: 70 61 25 39 48 36 11 19
   Step V: 70 61 48 25 39 36 11 19
   Step VI: 70 61 48 39 36 11 19 25
   Step VII: 70 61 48 39 11 19 25 36

2. **In a certain way if 70 is related to 19, 61 is related to 11, then which number is related to 36 in step V?**
   1) 36
   2) 39
   3) 70
   4) 48
   5) 25

   Answer

3. **How many numbers is/are between '61' and '11' in the third last step?**
   1) Zero
   2) One
   3) Two
   4) Three
   5) Four

   Answer

4. **Complete the series based on the arrangement in step IV.**
   70 61 39 __
   1) 19
   2) 25
   3) 11
   4) 36
   5) 48

   Answer

5. **Which number is second to the left of the fifth number from the right in the last step?**
   1) 61
   2) 48
   3) 25
   4) 11
   5) 19

   Answer

(Direction 6 – 10): Study the following diagram and convert it into other diagram by implementing the instructions which is given in each step to get next step.

Input Output

Input:

23E	47G	19S
84A		53I
7K	33O	63U

Step 1:

20E	44G	40S
48A		32I
28K	24O	36U

Step 2:

20G	44N	40L
48B		32N
28V	24D	36P

Step 3:

27B	58H	52D
50L		46E
50J	28F	52I

Step 1:
The sum of the digits of the numbers in each box are executed and then multiplied by 4.
Step 2:
a) If the sum of the digits of the number in a box is a prime number, then the position of alphabet is added to the sum of digits and replaced by the alphabet occurring at that position as per English alphabetical order.
b) If the sum of the digits of the number in a box is not a prime number, then alphabet is replaced with an alphabet occurring at twice its position as per English alphabetical order.
Step 3 is coded in some special pattern.

As per the rules followed in the above steps, find out the appropriate steps for the given input and answer the given questions.

Input:

78Q	41B	26P
76F		63X
89H	20S	11T

6. **Which of the following is opposite to the element 36X in step 1?**
   1) 68H
   2) 52F
   3) 60Q
   4) 32P
   5) 20B

Answer

Answer – **2) 52F**
Solution:

Input Output

Input:

78Q	41B	26P
76F		63X
89H	20S	11T

Step 1:

7+8 = 15 (15 × 4 = 60)Q	4+1=5 (5 × 4 = 20) B	2+6=8 (8 × 4 = 32) P
7+6=13 (13 × 4 = 52) F		6+3=9 (9 × 4 = 36) X
8+9=17 (17 × 4 = 68) H	2+0=2 (2 × 4 = 8) S	1+1=2 (2 × 4 = 8) T

60Q	20B	32P
52F		36X
68H	8S	8T

Step 2:

6+0=6 (Not prime number) Q	2+0 = 2 (B changed to D)	3+2=5 (P changed to U)
5+2 = 7 (F changed to M)		3+6=9 (Not prime number) X
6+8 = 14 (Not prime number) H	8S	8T

Position of Q in English alphabet = 17; 17 × 2 = 34; Q is replaced by H
Position of H in English alphabet = 8; 8 × 2 = 16; H is replaced by P
Position of S in English alphabet = 19; 19 × 2 = 38; S is replaced by L
Position of X in English alphabet = 24; 24 × 2 = 48; X is replaced by V
Position of T in English alphabet = 20; 20 × 2 = 40; H is replaced by N

60H	20D	32U
52M		36V
68P	8L	8N

Input Output

Step 3:

In the given input:

Step 2:

20G	44N	40L
48B		32N
28V	24D	36P

Step 3:

27B	58H	52D
50L		46E
50J	28F	52I

2 + 0 = 2; In English alphabet B is at 2nd place; G is at 7th place in English alphabet 20 + 7 = 27.
4 + 8 = 12; In English alphabet L is at 12th place; B is at 2nd place in English alphabet 48 + 2 = 50.
2 + 8 = 10; In English alphabet J is at 10th place; V is at 22nd place in English alphabet 28 + 22 = 50.
4 + 4 = 8; In English alphabet H is at 8th place; N is at 14th place in English alphabet 44 + 14 = 58.
2 + 4 = 6; In English alphabet F is at 6th place; D is at 4th place in English alphabet 24 + 4 = 28.
4 + 0 = 4; In English alphabet D is at 4th place L is at 12th place in English alphabet 40 + 12 = 52.
3 + 2 = 5; In English alphabet E is at 5th place; N is at 14th place in English alphabet 32 + 14 = 46.
3 + 6 = 9; In English alphabet I is at 9th place; P is at 16th place in English alphabet 36 + 16 = 52.

60H	20D	32U
52M		36V
68P	8L	8N

6 + 0 = 6; In English alphabet F is at 6th place; H is at 8th place in English alphabet 60 + 8 = 68.
5 + 2 = 7; In English alphabet G is at 7th place; M is at 13th place in English alphabet 52 + 13 = 65.
6 + 8 = 14; In English alphabet N is at 14th place; P is at 16th place in English alphabet 68 + 16 = 84.
2 + 0 = 2; In English alphabet B is at 2nd place; D is at 4th place in English alphabet 20 + 4 = 24.
8; In English alphabet H is at 8th place; L is at 12th place in English alphabet 8 + 12 = 20.
3 + 2 = 5; In English alphabet E is at 5th place; U is at 21st place in English alphabet 32 + 21 = 53.
3 + 6 = 9; In English alphabet I is at 9th place; V is at 22nd place in English alphabet 36 + 22 = 58.
8; In English alphabet H is at 8th place; N is at 14th place in English alphabet 8 = 14 = 22.

68F	24B	53E
65G		58I
84N	20H	22H

7. **What is the sum of all the number of row 1 in step 3?**
   1) 140
   2) 150
   3) 155
   4) 160
   5) 145

Answer

8. **Which of the following is the highest number in step 2?**
   1) 60
   2) 52
   3) 36
   4) 68
   5) 32

Answer

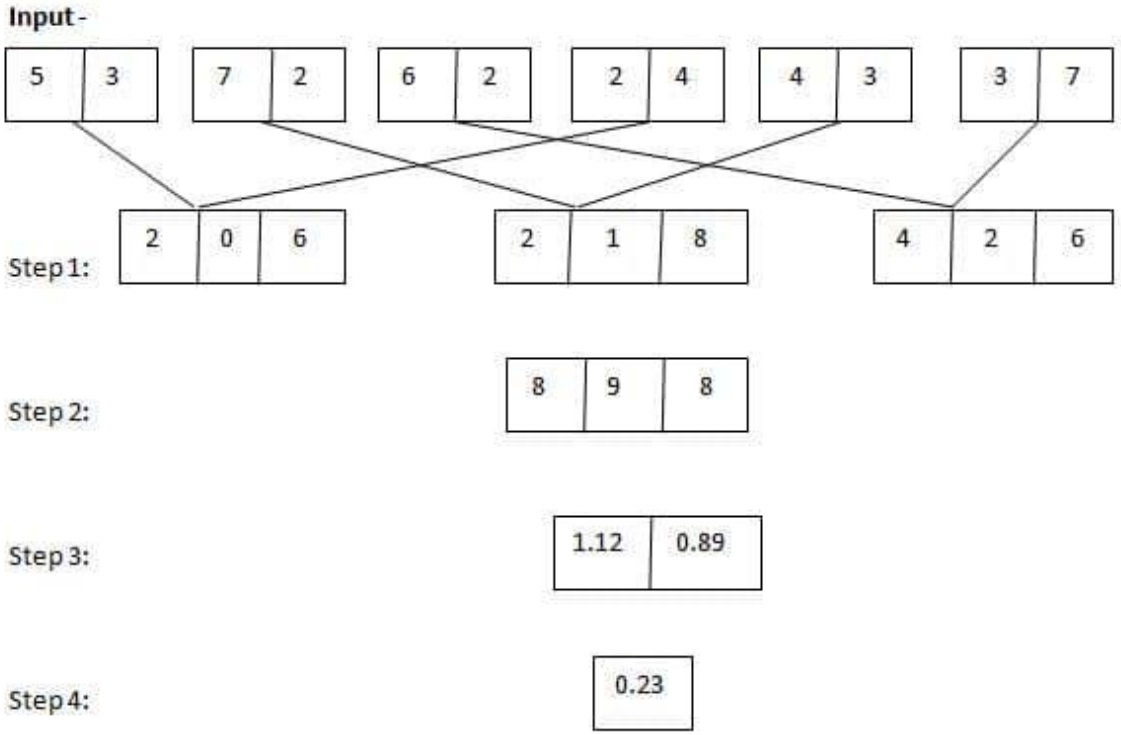
9. **Which element comes in step 1 in the 2nd column and 1st row?**
   1) 20B
   2) 41B
   3) 26P
   4) 36X
   5) 52F

Answer

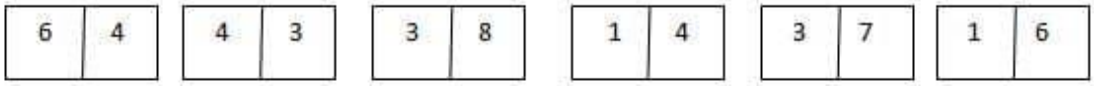
10. **Which element comes in step 2 in 1st column and 3rd row?**
    1) 52M
    2) 36V
    3) 68P
    4) 8N
    5) 32U

(Directions 1 – 5): Study the given information carefully and answer the given questions:
An input-output is given in different steps. Some mathematical operations are

done in each step. No mathematical operation is repeated in next step.



As per the rules followed in the steps given above, find out in each of the following questions the appropriate steps for the given input.



1. **What is the multiplication of all the numbers of step 2?**
   1) 8
   2) 6
   3) 12
   4) 15
   5) None of these

Answer

Answer – **2) 6**

Solution:

In first step:

Multiply 1st and 2nd number of box 1 and 4 respectively: 5 × 4 = 20

Multiply 2nd and 1st number of box 1 and 4 respectively: 3 × 2 = 6

Multiply 1st and 2nd number of box 2 and 5 respectively: 7 × 3 = 21

Multiply 2nd and 1st number of box 2 and 5 respectively: 2 × 4 = 8

Multiply 1st and 2nd number of box 3 and 6 respectively: 6 × 7 = 42

Multiply 2nd and 1st number of box 3 and 6 respectively: 2 × 3 = 6In second step:

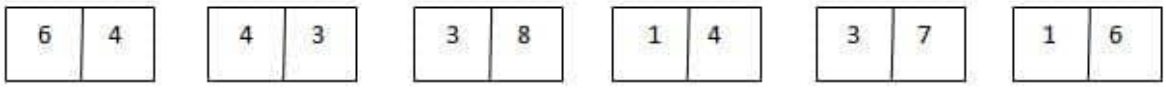
Add 1st and 3rd number of box 1 and subtract it from 2nd number of box 1 = 6 +

Input Output

2 = 8, 8 – 0 = 8
Add 1st and 3rd number of box 2 and subtract it from 2nd number of box 2 = 8 + 2 = 10, 10 – 1 = 9
Add 1st and 3rd number of box 3 and subtract it from 2nd number of box 3 = 6 + 4 = 10, 10 – 2 = 8

In third step:
Divide 2nd number from 1st number = 9 ÷ 8 = 1.12
Divide 3rd number from 2nd number = 8 ÷ 9 = 0.89

In fourth step:
Subtract both the numbers = 1.12 – 0.89 = 0.23



In first step:
Multiply 1st and 2nd number of box 1 and 4 respectively: 6 × 4 = 24
Multiply 2nd and 1st number of box 1 and 4 respectively: 4 × 1 = 4
Multiply 1st and 2nd number of box 2 and 5 respectively: 4 × 7 = 28
Multiply 2nd and 1st number of box 2 and 5 respectively: 3 × 3 = 9
Multiply 1st and 2nd number of box 3 and 6 respectively: 3 × 6 = 18
Multiply 2nd and 1st number of box 3 and 6 respectively: 8 × 1 = 8

In second step:
Add 1st and 3rd number of box 1 and subtract it from 2nd number of box 1 = 4 + 2 = 6, 6 – 4 = 2
Add 1st and 3rd number of box 2 and subtract it from 2nd number of box 2 = 9 + 2 = 11, 11 – 1 = 3
Add 1st and 3rd number of box 3 and subtract it from 2nd number of box 3 = 8 + 1 = 9, 9 – 8 = 1

In third step:
Divide 2nd number from 1st number = 3 ÷ 2 = 1.5
Divide 3rd number from 2nd number = 1 ÷ 3 = 0.33

In fourth step:
Subtract both the numbers = 1.5 – 0.33 = 1.17

2. **Which is the largest number obtained in step 1?**
   1) 188
   2) 244
   3) 249
   4) 289
   5) 250

Answer

3. **If the third number of all the boxes is halved and then added the half numbers, what is the result in step 1?**
   1) 10.5
   2) 12.5
   3) 8.5
   4) 11.5
   5) None of these

Answer

4. **What is the sum of numbers in step 3?**
   1) 0.66
   2) 0.74
   3) 1.83
   4) 1.66
   5) 1.35

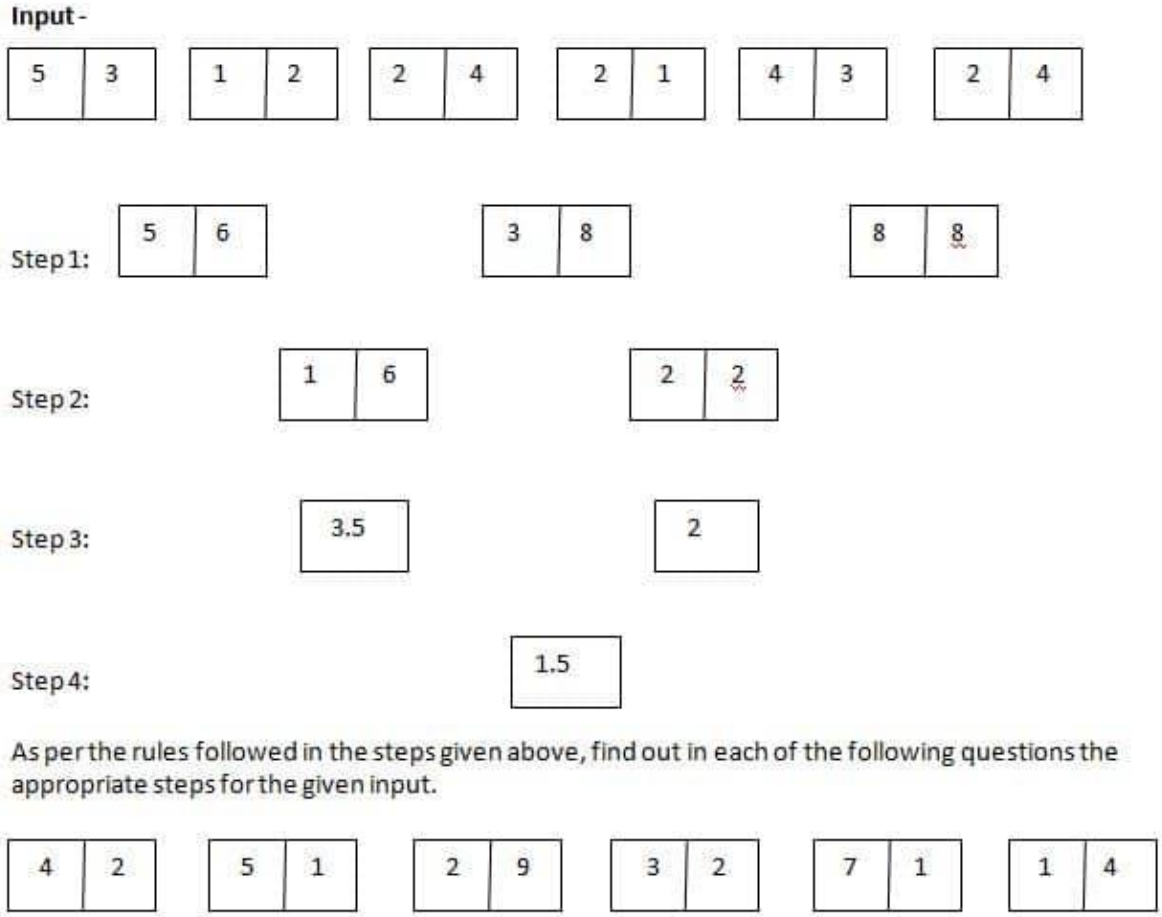
Answer

5. **Which is the following number obtained in last step?**
   1) 1.07
   2) 1.77
   3) 1.67
   4) 1.17
   5) None of these

Answer

Directions (6 – 10): Study the given information carefully and answer the given questions:
An input-output is given in different steps. Some mathematical operations are

done in each step. No mathematical operation is repeated in next step.



As per the rules followed in the steps given above, find out in each of the following questions the appropriate steps for the given input.

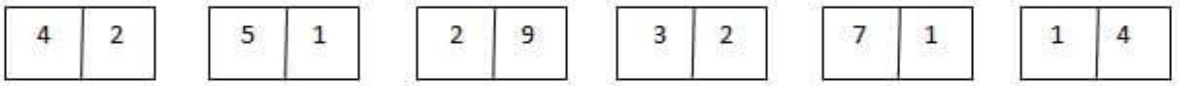
6. **Find the addition of two numbers obtained in step III?**
   1) 1.5
   2) 3
   3) 7
   4) 3.5
   5) None of these

Answer

Answer – **4) 3.5**
Solution:
In first step:
5 × 1 = 5, 3 × 2 = 6
1 × 3 = 3, 2 × 4 = 8
2 × 4 = 8, 2 × 4 = 8In second step:
Adding all the first digits: 5 + 3 + 8 = 16
Adding all the second digits: 6 + 8 + 8 = 22

In third step:
1 + 6 = 7, 7/2 = 3.5
2 + 2 = 4, 4/2 = 2

In fourth step:
3.5 – 2 = 1.5



7. **Find the sum of numbers obtained in 1st step?**
   1) 232
   2) 185
   3) 188
   4) 183.5
   5) None of these

Answer

8. **What is the multiplication of the numbers in step II?**
   1) 442
   2) 452
   3) 472
   4) 462
   5) 422

Answer

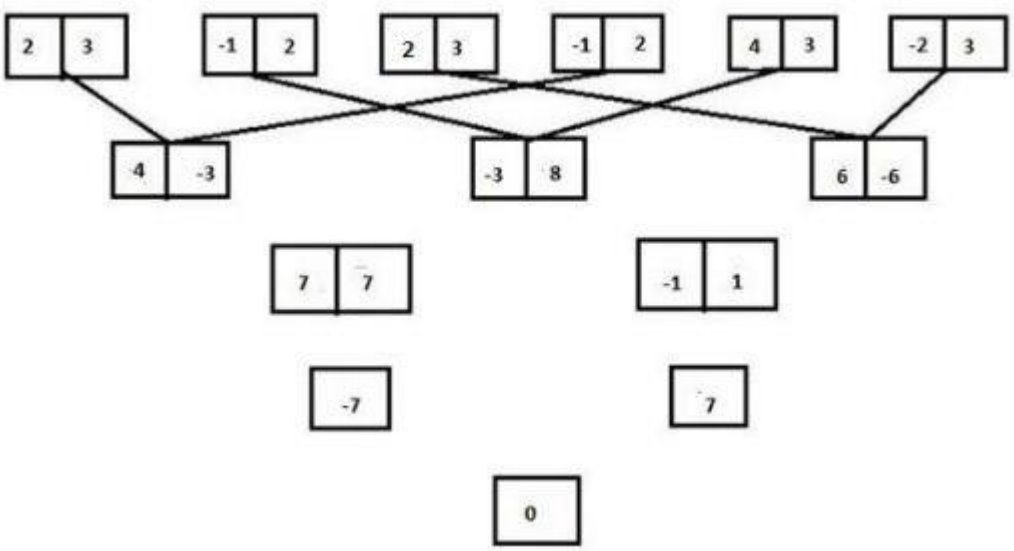
9. **Which of the following is the lowest number in step I?**
   1) 86
   2) 57
   3) 80
   4) 89
   5) None of these

Answer

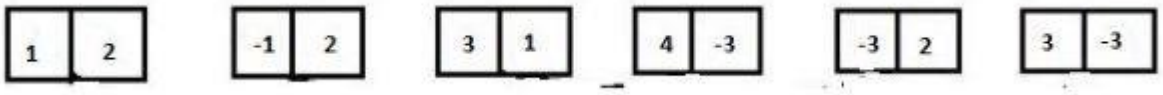
10. **Which of the following is obtained in step 4?**
    1) 1.5
    2) 2.5

3) 3.5
4) 1
5) 0.5

1. **Q (1-5) Study the following information carefully and answer the following questions**
   A number arrangement machine arranges two digit numbers into a typical manner. Each step gives output taking input from the previous step. The following is an illustration of Input and rearrangement. Using the illustration answer the question below.



Input:

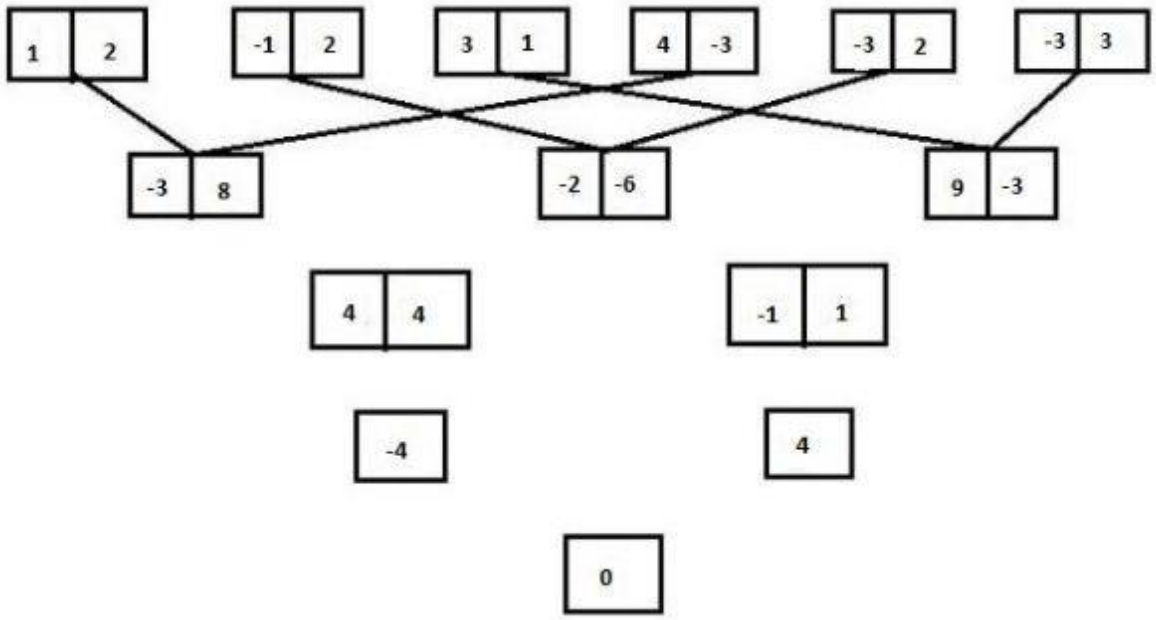


1. **If in the first step the second digit of every number is added and then multiplied by 11 then what will be the resultant value?**
   A. 11
   B. -11
   C. 44
   D. -44
   E. None

Answer

Answer – **B. -11**

Solution:



2. **Which of the combinations represent the first digit of second value and second digit of first value from the left end in step I?**
   A. 8, -2
   B. -2, 8
   C. 2, 8
   D. -3, -6
   E. None

Answer

3. **What is the difference of the Second digit of first value and first digit of Second value from left end in Step II?**
   A. 0
   B. 3
   C. 4
   D. 5
   E. None

Answer

4. **What will be the result when elements in Step III are multiplied?**
   A. -4

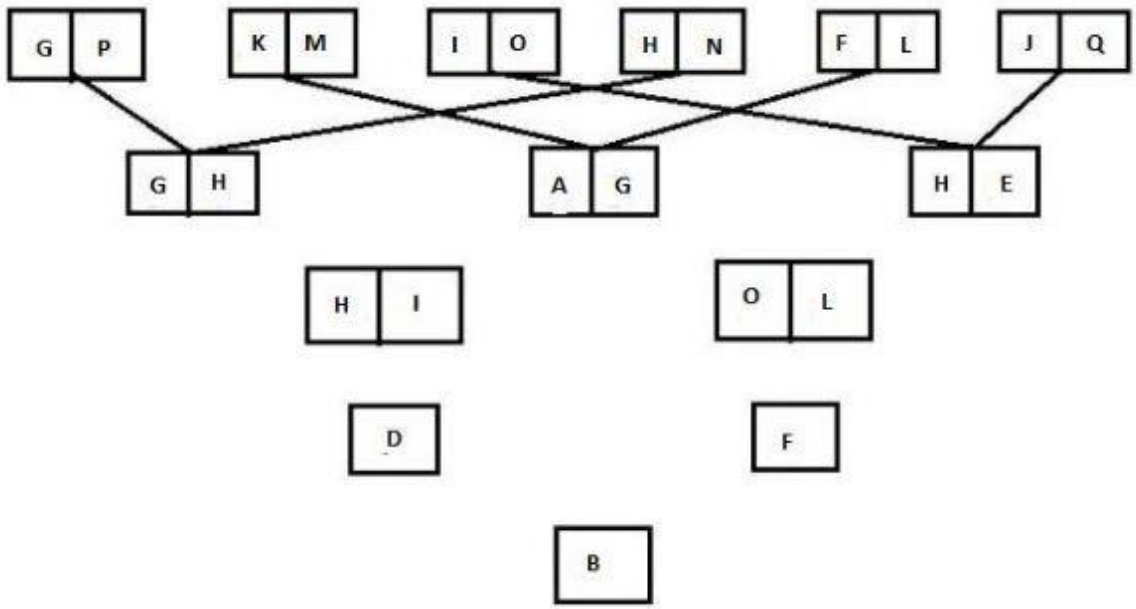
B. 4
C. 12
D. -16
E. 16

Answer

5. **If '3' is subtracted from last step then what will be the result?**
   A. -3
   B. 0
   C. 3
   D. 4
   E. 6

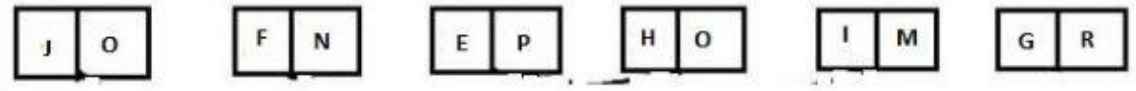
Answer

Q (6-10) Study the following information carefully and answer the following questions
A number arrangement machine arranges two digit numbers into a typical manner. Each step gives output taking input from the previous step. The following is an illustration of Input and rearrangement. Using the illustration answer the question below.



Input Output

Input:

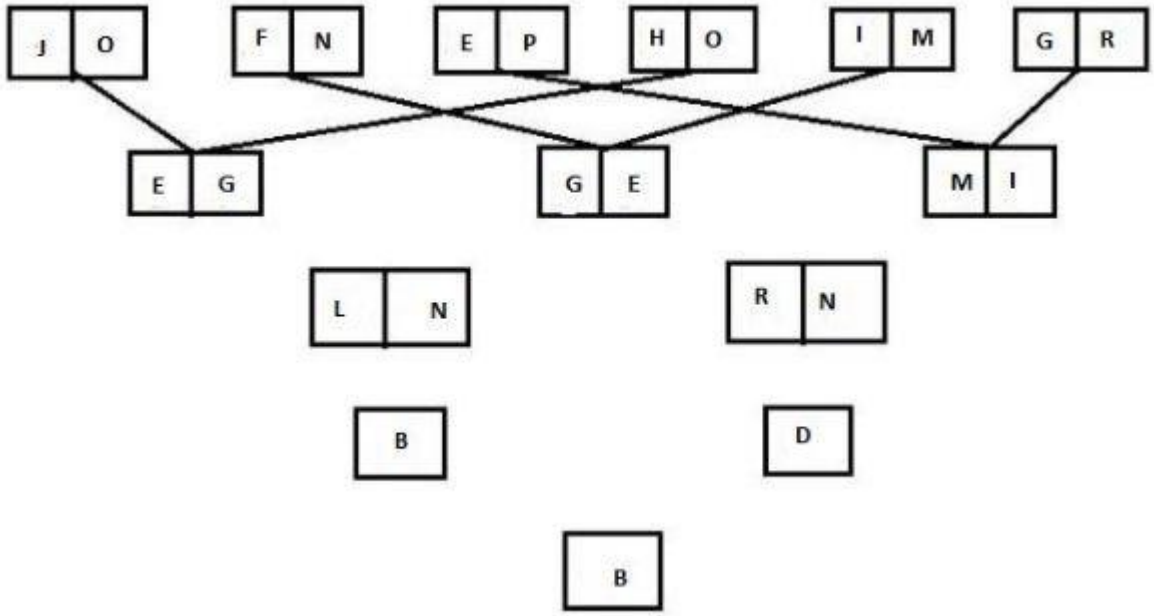


6. Which of the following will be the resultant in the last step?
   A. A
   B. B
   C. C
   D. D
   E. None

Answer

Answer – **B. B**

Solution:



7. **Which of the following are the results in the step III?**
   A. D and F
   B. B and D
   C. B and F
   D. D and E
   E. None

Answer

8. **If 'A' is the final output then which of the following elements can be in step III?**
   A. B and C
   B. B and D
   C. C and E
   D. E and H
   E. None

Answer

9. **If L and N are the outputs in step III then which of the following will be the output in final step?**
   A. A
   B. B
   C. C
   D. D
   E. None

Answer

10. **Which of the following element is not present in step I?**
    A. E
    B. G
    C. M
    D. I
    E. K