Input and Output

Directions (Qs. 1 to 6) : Study the following information to answer the given questions :

An electronic device when fed with the numbers, rearranges them in a particular order following certain rules. The following is a step-by-step process of rearrangement for the given input numbers –

Input   : 85 16 36 04 19 97 63 09

Step I   : 97 85 16 36 04 19 63 09

Step II : 97 85 63 16 36 04 19 09

Step III: 97 85 63 36 16 04 19 09

Step IV: 97 85 63 36 19 16 04 09

Step V : 97 85 63 36 19 16 09 04

(For the given input step V is also the last step)

1.Which of the following will be the Last Step for the given input ?

Input :16 09 25 27 06 05
A. I
B. II
C III
D. IV

Answer: Option B
Step I : 27 16 09 25 06 05
Step II : 27 25 16 09 06 05(Last Step)

2.Which of the following will be the step II of the given input ?

Input: 82 80 79 99 22 32 50

A:99 82   80 79 50 32 22
B:99 82   80 79 50 22 32

C:99 82   80 79 32 22 50
D:99   82   80 79 22 32 50

Answer: Option B
Step I : 99 82 80 79 22 32 50
Step II : 99 82 80 79 50 22 32

3.Which of the following will be the step III for the given input ?

Input : 09 25 16   30 32 19 17 06

1.32 25 09 16 30 19 17 06
2.32 30 25 09 16 19   17 06
3.32 30 09 25 16 19 17 06
4.32 09 25 16 30 19 17 06

Answer: Option B
Step I : 32 09 25 16 30 19 17 06
Step II : 32 30 09 25 16 19 17 06
Step III : 32 30 25 09 16 19 17 06

4.If the Step IV is as given below, which of the following was the input ?

Step IV: 92 86 71 79 15 19 06 63 58

A.86 92 69 71 15 19 06 63 58

B.15 19 06 63 58 86 92 69 71

C.15 86   19 92 06 69 63 58 71

D.Cannot be determined

Answer: Option B
Input :   15 19 06 63 58 86 92 69 71
Step I: 92 15 19 06 63 58 86 69 71
Step II: 92 86 15 19 06 63 58 69 71
Step III: 92 86 71 15 19 06 63 58 69
Step IV : 92 86 71   69 15 19 06   63 58

5.Which of the following will be the Last Step for the given input ?

Input : 03 31 43 22 11 09

A. IV
B. V
C. VI
D Cannot be determined

Answer: Option B
Step I : 43   03 31   22   11 09
Step II : 43   31 03   22   11 09
Step III: 43   31 22   03   11 09
Step IV : 43   31 22   03   11 09
Step V : 43   31 22   11   09 03

6. Which of the following will be the V step for the given input ?

Input : 25   08 35 11 88 67 23

A : 88 67 35 25 23 11 08
B : 88 67 35 25 23 08 11
C. 88   67 35 25 08 11 23
D. 08   11 23 25 35 67 88

Answer: Option A
Step I   : 88   25 08 35 11 67 23
Step II   : 88   67 25 08 35 11 23
Step III : 88   67 35 25 08 11 23
Step IV : 88   67 35 25 23 08 11
Step V   : 88   67 35 25 23 11 08

Directions (Qs. 7 to 11) : Study the following information to answer the given questions.

A word arrangement machine, when given an input line of words, rearranges them following a particular rule in each step. The following is an illustration of input and the steps of rearrangement.

Input : Go for to thought By easy to Access at

Step I : Access Go for to Though By easy To at
Step II : Access at Go for to Though by easy To
Step III : Access at By Go for to Though easy to
Step IV : Access at By easy Go or to Though To
Step V : Access at By easy for G to though To
Step VI : Access at By easy for Go Though to To
Step VII : Access at By easy or Go though To to
(and step VII is the last step for this input.)

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

7. **Input :** Over Go for through at one

Which step number will be the last step of the above input.

A.) III
B) IV
C) V
D) None of these

Answer: Option D. Words are written in dictionary order
1st step : around Story For on was He at
2nd step : at For Over Go through one
3rd step : at For Go Over through one
4th step : at For Go one Over through (Last step)

8.**Input :** Story for around on was He at.

Which of the following will be the IV step ?

A.around at He for story on was
B.around at for He story on was
C.around at for He on story was
D.around at for He on was story

Answer: Option B
1st step : around Story For on was He at
2nd Step : around at Story For on was He
3rd Step : around at For Story on was HE
4th Step : around at For He Story on was

9.**Input :** Together over series on feast the so.

Which of the following steps will be the last but one ?

A) II
B) III
C) IV
D) V

Answer: Option D
1st Step : feast Together over series on the so
2nd Step : feast on Together over series the so
3rd step : feast on over Together series the so
4th step : feast on over series Together the so
5th Step : feast on over series so the Together (Last step)

10. **Input :** every and peer to an for

Which of the following steps would be 'an and every for peer to' ?

A) II
B) IV
C) V
D) III

Answer: Option D
1st Step : an every and peer to for
2nd step : an and every peer to for
3rd Step : an and every for peer to

11. **The step II of an input is as follows :**

and Do pet to on that
Which of the following would definitely be the input ?

A.Do and pet to on that
B.Do pet to and that on
C.Do on pet to and that
D.None of these
Answer: Option D

Exercise Questions

Direction: Study the following information to answer the given questions. A word/number arrangement machine when given an input line of words, or numerals or a combination of both, rearranges them following a particular rule in each step.

Q1.

Input   : 15 17 35 7   23 11

Step I : 16 15 38 3   28 5

Step II : 3   5   15 16 28 38

Step III: 9 15 45 48 84 114

Step IV: 9   6   9   12 12   6

Step V : 6   6   9   9   12   12

Step V is the output.

Answer the following questions based on the above information.

1. What is the output for the input- 6 11 15 20 24 33?

a. 3 9 9 10 12 15

b. 3 9 9 12 15 15

c. 3 6 9 9 12 15

d. 3 9 9 9 13 15

e. None of the above

2. What is Step I of an input if the Step IV of that input is –

3 12 15 9 9 6?

a. 9   18 36 56 79 23

b. 10 15 18 23 46 85

c. 1   7 51 63 81 25

d. 21 9 55 35 56 28

e. Cannot be determined.

3. What is Step IV for the input- 9 18 36 54 27 45?

a. 3 15 12 9 6 9

b. 9 15 12 3 6 9

c. 3 12 15 9 9 6

d. 3 12 15 9 6 9

e. 3 15 9 9 6 12

4. If 11 7 18 26 22 32 is the input, then how many steps are there in between to get the arrangement- 6 9 9 12 15 9?

a. 0

b. 2

c. 1

d. 3

e. 4

5. What is the output if the Step I for an input is- 18 21 8 17 50 26?

a. 6 6 6 9 9   12

b. 6 6 6 9 12 15

c. 6 6 9 9 12 15

d. 6 6 9 6 12 15

e. 6 6 6 9 9 15

Q2.

Input   : 1 11 21 31 41 51 61 71

Step I   : 11 1   21 31 41 51 61 71

Step II   : 21 1 11 31 41 51   61 71

Step III : 31 1 11 21 41 51 61   71

Step IV : 41 1 11 21 31 51 61   71

Step V   : 51 1 11 21 31 41 61   71

Step VI : 61 1 11 21 31 41 51 71

Step VII : 71 1 11 21 31 41 51 61

Step VII is the final output. As per the rule followed in the above steps, answer the following questions.

6. Which will be the final output for the following input?

Input   : 38 14 56 12 92 39 114 43

a. 12 14 38 39 43 56 92 114

b. 14 12 39 38 56 43 114 92

c. 43 38 56 14 12 92 39 114

d. 43 38 14 56 12 92 39 114

e. 43 14 56 38 12 92 39 114

7. How many steps are required to get the final output for the following input?

Input   : 18 7 13 97 86 42 59

a. 6 steps

b. 7 steps

c. 8 steps

d. 5 steps

e. 4 steps

8. Which among the following will be the input if the final output is: 58 94 32 51 87 13 7 23?

a. 7 13 23 32 51 58 87 94

b. 94 87 58 51 32 23 13 7

c. 7   13 32 23 51 87 94 58

d. 94 32 51 87 13 7 23 58

e. Cannot be determined

9. If the first eight prime numbers are taken in ascending order as the input, then which of the following will be step IV of that input?

a. 2 3 5 7 11 13 17 19

b. 19 2 3 5 7 11 13 17

c. 11 2 3 5 7 13 17 19

d. 3 5 7 11 13 17 19 2

e. Cannot be determined

10. Which among the following is the last but one step for the following input?

256 159   386 125 81 64 121

a. 121 256 159 386 125 81 64

b. 81 256 159 386 125 64 81

c. 125 256 159 386   81 64 121

d. 386 256 159 125 81 64 121

e. 64 256 159 386 125 81 121

Answer & Explanations

Q1. The logic is as follows

Input   : 15 17 35 7 23 11

Step I : +1 -2 +3 -4 +5 -6

         16 15 38 3 28 5

Step II : Sort in ascending order

         3   5   15 16 28 38

Step III: *3 *3 *3 *3 *3 *3

         9 15 45 48 84 114

Step IV: Sum of the digits

         9 6   9   12 12 6

Step V : Arrange in ascending order

         6 6 9   9 12 12

1. Ans:e

   Input: 6   11 15 20 24 33

   Step I : 7   9 18 16 29 27

   Step II : 7   9 16 18 27 29

   Step III: 21 27 48 54 81 87

   Step IV: 3   9 12   9   9 15

   Step V : 3   9   9   9 12 15

2. Ans:e

   As sorting is done from Step II, we cannot find step I.

3. Ans:c

Input : 9 18 36 54 27 45

Step I : 10 16 39 50 32 39

Step II : 10 16 32 39   39 50

Step III: 30 48 96 117 117 150

Step IV: 3 12 15   9   9   6

4. Ans:d

Input   : 11 7 18 26 22 32

Step I : 12 5 21 22 27 26

Step II : 5 12 21 22 26 27

Step III:15 36 63 66 78 81

Step IV: 6   9   9 12   15 9

5. Ans:e

Step I : 18 21 8 17 50 26

Step II : 8 17 18 21 26 50

Step III: 24 51 54 63 78 150

Step IV: 6   6   9 9   15   6

Step V : 6   6   6 9   9 15

Q2. Ans: The numbers given in the output are shifted one position to their right cyclically in the output. In Step I, the first number in the input has interchanged its position with the second number. In Step II, the third number has interchanged its position with the first number. In Step III, the fourth number has interchanged its position with the first number.

This is followed in the steps further, till all the numbers are arranged by shifting by one place to the right cyclically.

6. Ans:d

   Input   : 38 14 56 12 92 39 114 43

   Step I   : 14 38 56 12 92 39 114 43

   Step II : 56 38 14 12 92 39 114 43

   Step III : 12 38 14 56 92 39 114 43

   Step IV : 92 38 14 56 12 39 114 43

   Step V   : 39 38 14 56 12 92 114 43

   Step VI : 114 38 14 56 12 92 39 43

   Step VII : 43 38 14 56 12 92 39 114

   Step VII is the final output.

7. Ans:a

   In each step, only one element is rearranged. Hence the total number of steps we require to get the
   final output is (n-1), where 'n' is the total number of elements in the input.

   In this input, the total number of elements = 7

   Hence we require (7-1) = 6 steps to get the final output.

8. Ans:d

   In the output the numbers given in the input are rearranged by shifting each number by one position to
   the right cyclically. Hence, to get the input from the output the converse logic has to be applied, ie,
   the numbers should be shifted to their left by one place. Hence, the input is 94 32 51 87

13 7 23

58.

9. Ans:c

It is given that the first eight prime numbers are taken in ascending order as the input. Hence, the
input and output will be as follows.

Input   : 2 3 5 7 11 13 17 19

Step I : 3 2 5 7 11 13 17 19

Step II : 5 2 3 7 11 13 17 19

Step III : 7 2 3 5 11 13 17 19

Step IV : 11 2 3 5 7 13 17 19

10. Ans:e

The given input is

Input   : 256 159 386 125 81 64 121

Step I : 159 256 386 125 81 64 121

Step II : 386 256 159 125 81 64 121

Step III : 125 256 159 386 81 64 121

Step IV : 81   256 159 386 125 64 121

Step V : 64 256 159 386 125 81 121

Step VI : 121 256 159 386 125 81 64

Hence, the last but one step is Step V.