7. Machine Input - Output

Many students when they attempt this question for the first time they consider this as a difficult question. But this is one of the easiest questions where students can fetch 5 marks in less time.

We find mainly 2 models in this topic

1) In BANK exams manly find the model in which given words and numbers are arranged based on logic.

   Ex:

   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 rearrangement.

   Input : but 32 71 glory fair south 65 84

   Step 1: south but 32 71 glory fair 65 84

   Step II: south 84 but 32 71 glory fair 65

   Step III: south 84 glory but 32 71 fair 65

   StepIV: south 84 glory 71 but 32 fair 65

   StepV : south 84 glory 71 fair but 32 65

   StepVI :south 84 glory 71 fair 65 but 32

   And Step VI is the last step of the rearrangement.

2) In some other exams they jumble the words and numbers based on positions and may not follow any logic in jumbling the elements at various steps.

Model1:

Procedure:

To attempt this model first you should observe the last step (output) and identify logic.

Ex: if **input** is: 68 it at 46 32 be 79 he

out put: it 32 at 79 he 46 be 68

logic: 1.Series: Words and numbers are positioned alternately

   2. Words: Last word in the alphabetical order first then first in the alphabetical order. And then 2nd from reverse order at 3rd place and 2nd from beginning at 4th place.

   3. Number: Smallest number first, highest number 2nd and next smaller number 3rd etc.

Step II: To achieve the last step we move the needed elements (from step I to last step)

exactly in the order of the elements in output.

Step III: if any element is already in order we don't count that step.

When forgiven step "definite' previous step or input is asked we can't find that so answer should be 'can't be determined'.

If input is **key 48 may 38 12 hey 69 buy**

out put is **12 may 38 key 48 hey 69 buy**

If step III is **12 may 38 48 hey buy key 69**

Then what is definitely the step II. To take as an example all the below can give the required step III.

12 may 48 38 hey buy key 69

12 may48 hey buy key 69 38

12 may 48 hey 38 buy key 69 and more….So we cant't find step II so is the input.

Q. For the above logic if the input is **35 68 93 to go it be 47**then how many steps are needed to finish the arrangement.

To find this we just need to cancel the elements that are to be moved as per the order in the output and place them at their respective positions. Number of cancellations is the number of steps required to get the output.

Input: **35 68 93 to go it be 47 So 4 steps are needed to finish the arrangement.**

Model – II

Even though this model is not asked in BANK exams frequently it is good to have an idea

Input 36 may 48 buy 62 kin

Step I:36 may kin buy 62 48

          3↔6

Step II: may 36 in 62 buy 48

          1↔2   4↔5

          interchanged

This way positions get jumbled in this model .So similarly we should follow the steps given in question when we face this kind of model.

Exercise

Directions(Q. 1-5): Study the following information carefully and answer the given questions:

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 : day 74 night 36 25 68 for all

Step I : all day 74 night 36 25 68 for

Step II: all 74 day night 36 25 68 for

Step III: all 74 day 68 night 36 25 for

Step IV: all 74 day 68 for night 36 25

Step V : all 74 day 68 for 36 night 25

And step is the last step of the rearrangement of the above input.

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

1. Step III of an input: bond 86 goal 12 33 like high 46

   Which of the following will be step VII?

    a. bond 86 goal 46 like 12 33 high

    b. bond 86 goal 46 high like 33 12

    c. bond 86 goal 46 high 33 like 12

    d. There will be no such step

    e. None of these

2. Input: mind new 27 35 19 59 own tower

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

    a. VI   b. IV   c. V   d. VII   e. none of these

3. Step IV of an input: dear 63 few 51 16 29 yrs now.

   How many more steps will be required to complete the arrangement?

    a. four   b. five   c. three   d. two   e. None of these

4. Step II of an input is: car 73 18 25 wear 49 long for

   Which of the following is definitely the input?

    a. 18 25 wear 49 long for car 73

    b. 73 18 car 25 wear 49 long for

    c. 18 73 25 car wear 45 long for

    d. Cannot be determined

    e. None of these

5. Input: war 52 and peace 43 16 now 24

   How many steps will be required to complete the rearrangement?

    a. four   b. five   c. six   d. seven   e. none of these

Directions (Q.6-10): 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 an input and rearrangement.

Input   : 17 put show on 39 27 85 gold

Step I   : show 17 put on 39 27 85 gold

Step II : show 85 17 put on 39 27 gold

Step III : show 85 put 17 on 39 27 gold

Step IV : show 85 put 39 17 on 27 gold

Step V : show 84 put 39 on 17 27 gold

Step VI : show 85 put 39 on 27 17 gold

Step VII: show 85 put 39 on 27 gold 17

And step VII is the last step of the rearrangement of the above input.

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

6. Input: glass full 15 37 water now 85 67

   Which of the following will be step VI of the above input?

     a. water 85 now 67 full glass 15 37

     b. water 85 now 67 glass full 15 37

     c. water 85 now 67 glass 37 full 15

     d. There will be no such step

     e. None of these

7. Step II of an input is: ultra 73 12 16 mail sort 39 kite

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

      a. VIII   b. IX   c. VII   d. VI   e. None of these

8. Step III of an input is: win 75 voice 15 39 store gap 26

   Which of the following is definitely the input?

    a. voice 15 win 75 39 store gap 26

    b. voice win 75 15 39 store gap 26

    c. 15 75 win voice store gap 26

    d. Cannot be determined

    e. none of these

9. Step II of an input is: tube 83 49 34 garden flower rat 56

   How many steps will be required to complete the rearrangement?

     a. four   b. five   c. six   d. three   e. None of these

10.Input: hunt for 94 37 good 29 48 book

   How many steps will be required to complete the rearrangement?

   a. four   b. five   c. six   d. seven   e. none of these

Directions(Q. 11-16): Study the following information carefully and answer the given questions:

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   : gone 93 over 46 84 now for 31

Step I   : 31 gone 93 over 46 84 now for

Step II   : 31 over gone 93 46 84 now for

Step III   : 31 over 46 gone 93 84 now for

Step IV : 31 over 46 now gone 93 84 for

Step V :   31 over 46 now 84 gone 93 for

And step V is the last step of the rearrangement of the above input.

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

11.Step III of an input: 15 window 29 93 86 sail tower buy

   Which of the following will be step IV?

   a. 15 window 29 tower 86 sail 93 buy

   b. 15 window 29 tower 86 93 sail buy

   c. 15 window 29 tower 93 86 sail buy

   d. There will be no such step

   e. None of these

12.Input: station hurry 39 67 all men 86 59

   How many steps will be required to complete the rearrangement?

   a. four   b. five   c. six   d. three   e. none of these

13.Step II of an input is: 49 zone car battery 56 87 71 down

   Which of the following is definitely the input?

   a. car 49 battery zone 56 87 71 down

   b. zone 49 car battery 56 87 71 down

   c. battery car 49 zone 56 87 71 down

   d. Cannot be determined

   e. None of these

14. Input: news 79 53 glory for 46 29 task

   Which of the will be step IV?

   a. 29 task 46 news 53 glory 79 for

   b. 29 task 46 news 5379 glory for

   c. 29 task 46 news 79 53 glory for

   d. 29 news 79 53 glory for 46 task

   e. None of these

15. Step III of an input is: 27 tube 34 gas chamber row 74 53

   Which of the following will be the last but one?

   a. VI   b. VII   c. VIII   d. V   e. none of these

16. Step II of an input: 19 year 85 74 near gone 26 store

   How many more steps will be required to complete the rearrangement?

   a. three   b. four   c. two   d. five   e. none of these

Directions(17-21): Study the following information carefully and answer the given questions

A word and number arrangement when given an input line of words and numbers rearranges them following a particular rule in each sep. The following is an illustration of input and rearrangement.

Input   : gain 96 63 forest 38 78 deep house

Step I   : deep gain 96 63 forest 38 78 house

Step II   : deep 38 gain 96 63 forest 78 house

Step III : deep 38 forest gain 96 63 78 house

Step IV : deep 38 forest 63 gain 96 78 house

Step V : deep 38 forest 63 gain 78 96 house

Step VI : deep 38 forest 63 gain 78 house 96

And step VI is the last step of the rearrangement of the above step.

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

17. Input: train 59 47 25 over burden 63 sky

   Which of the following will be the last but one?

   a. VI   b. V   c. IV   d. VII   e. none of these

18. Input: service 46 58 96 of there desk 15

   Which of the following will be step VI?

a. desk 15 over service 46 58 96 there

b. desk 15 over 46 service there 58 96

c. desk 15 over 46 service 58 there 96

d. desk 15 over 46 service 58 96 there

e. There will be no such step

19. Step II of an input is: below 93 12 house floor 69 57 task

   Which of the following will definitely be the input?

   a. 93 house 89 57 below task floor 12

   b. 93 house below 69 57 task floor 12

   c. 93 house floor 69 57 task below 12

   d. cannot be determined

   e. none of these

20. Step III of an input is: art 24 day 83 71 54 star power

   Which of the following steps will be the last?

   a. V　　　　b. VIII　　　c. IX　　　d. VII　　　e. None of these

21. Step II of an input is: cold 17 wave 69 never desk 52 43

   How many more steps will be required to complete the rearrangement?

   a. Six　　　b. five　　　c. four　　　d. three　　　e. none of these

Directi0ons(Q.22-27): Study the following information carefully and answer the given question:

A word and number arrangement machine 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　　: sale data 18 23 for 95 then 38

Step I　　: data sale 18 23 for 95 then 38

Step II　　: data 95 sale 18 23 for then 38

Step III　　: data 95 for sale 18 23 then 38

Step IV : data 95 for 38 sale 18 23 then

Step V　: data 95 for 38 sale 23 19 then

Step VI : data 95 for 38 sale 23 then 18

And step VI is the last step of the rearrangement of the above input.

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

22. Input: year 39 stake 47 house full 94 55

    How many steps will be required to complete the rearrangement?

    a. five   b. six   c. four   d. seven   e. None of these

23. Step II of an input is: car 83 lost ever 32 46 74 now

    How many more steps will be required to complete the rearrangement?

    a. three   b. four   c. five   d. six   e. none of these

24. Step III of an input is: and 79 code 27 18 new goal 34

    Which of the following will definitely be the input?

    a. code and 79 27 18 new goal 34

    b. code 27 18 new goal 34 and 79

    c. code 27 and 18 79 new goal 34

    d. cannot be determined

    e. none of these

25. Input: water fall never 35 78 16 height 28

    Which of the following steps will be the last?

    a. VI   b. VII   c. VIII   d. IX   e. None of these

26. Step II of an input is: high 69 store pay 36 43 15 there

    Which of the following will be step VI?

    a. high 69 pay 43 store 36 there 15

    b. high 69 pay 43 store 36 15 there

    c. high 69 pay 36 43 store 15 there

    d. There will be no such step

    e. None of these

27. Input: train more 29 53 fast gear 37 84

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

    a. IX   b. VIII   c. VII   d. VI   e. none of these

Directi0ons(Q.28-30): Study the following information carefully and answer the given question:

A word and number arrangement machine 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 : go now 52 38 17 for again 65

Step I : 65 go now 52 38 17 for again

Step II : 65 again go now 52 38 17 for

Step III : 65 again 52 go now 38 17 for

Step IV : 65 again 52 for go now 38 17

Step V : 65 again 52 for 3 8 go now 17

Step VI : 65 again 52 for 38 go 17 now

Step VI is the last step of the rearrangement.

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

28. Input: show 51 36 new far 81 46 goal

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

    a. vii   b. viii   c. vi   d. v   e. none of these

29. Input: home turf 39 24 8644 roll over

    Which of the following steps will be the last?

    a. X   b. IX   c. VII   d. VIII   e. none

30. Input: buy win task 52 38 43 door 12. Which of the following wi11 be step IV?

    a. 52 buy 43 door 3 8 task 12 win

    b. 52 buy 43 door 38 task win 12

    c. 52 buy 43 doer task win 38 12

    d. There will be no such step.

    e. None

Machine input and output Answers:

1.3   2.5   3.3   4.4   5.3   6.4   7.4   8.4   9.3   10.1   11.1   12.2   13.4

14.2   15.4   16.2   17.2   18.5   19.4   20.4   21.3   22.2   23.2   24.4