Sequential Output Tracing

REASONING WORKBOOK

QUESTIONS

Direction (1 - 4): A number arrangement machine when given an input line of numbers rearranges them by following a particular rule in each step as given below:

Input :	60	30	45	12	55
Step I :	12	60	30	45	55
Step II :	12	30	60	45	55
Step III :	12	30	45	60	55
Step IV :	12	30	45	55	60

The step IV above is the last step of the rearrangement.
Identify the rule followed in the above steps and answer the questions given below.

1. What will be the step II for the following input?
Input : 100 12 65 02 90

(a) 02	12	100	65	90
(b) 02	100	12	65	90
(c) 02	12	65	90	100
(d) 02	90	12	65	100

2. Which will be the last step for the input given below?
Input : 200 110 120 100 180

(a) 100	110	120	200	180
(b) 100	120	110	200	180
(c) 100	110	120	180	200
(d) 100	120	110	180	200

3. What was the input if the step I is given below?
Step I : 00 40 70 32 08

(a) 00	40	70	08	32
(b) 00	08	40	70	32
(c) 40	70	00	32	08
(d) 40	70	08	32	00

4. What would be the step III for an input if step II is given below?
Step II: 8 9 30 20 10

(a) 8	9	10	30	20
(b) 8	30	20	10	9
(c) 8	9	20	10	30
(d)8	10	9	20	30

Direction (5 - 8): Study the information below carefully.
A number arrangement machine when given an input consisting of numbers arranges the numbers in a particular way until all the numbers are arranged in a specific order. Read the following steps of rearrangements.

Input :	60	54	18	48	12	90
StepI :	60	90	54	12	18	48
Step II :	60	48	90	18	54	12
Step III :	60	12	48	54	90	18
Step IV :	60	18	12	90	48	54
Step V :	60	54	18	48	12	90

The step V is the final step.
Identify the rule in above steps of rearrangement and hence answer the questions given below.

5. What will be the final step if the input is given below?
Input : 5 12 18 40 77 82

(a) 82	77	40	18	12	5
(b) 5	12	18	40	77	82
(c) 5	82	12	77	18	40
(d) 5	40	82	18	12	77

6. What will be the step II for the input?
Input: 48 40 62 15 17 25

(a) 48	40	62	15	17	25
(b) 15	17	25	40	48	62
(c) 48	15	25	62	40	17
(d) 48	17	62	40	15	25

7. What was the input if step IV is given below?
Step IV: 30 60 70 20 50 40

(a) 30	70	50	40	20	60
(b) 30	50	20	60	40	70
(c) 30	20	40	70	60	50
(d) 30	40	60	50	70	20

8. What will be the step III for some input if the final step is given below?
Final step: 101 9 48 60 22 120

(a) 101	48	22	120	60	9
(b) 101	120	9	22	48	60
(c) 101	60	120	48	9	22

(d) Can't be determined

Direction (9-12): Study the following information carefully.
A number arrangement machine when given an input arranges the numbers step by step in a particular way. The steps of rearrangements are given below:

Input :	16	28	35	40	56	70
Step! :	70	16	28	35	40	56
Step II :	70	56	16	28	35	40
Step III :	70	56	40	16	28	35
Step IV :	70	56	40	35	16	28
Step V :	70	56	40	35	28	16

The step V is the last step.
Answer the following questions.

9. For the following input, what will be step III?
Input: 07 22 40 70 99 100

(a) 100	99	07	22	40	70
(b) 100	99	70	07	22	40
(c) 100	99	70	40	22	07
(d) 100	70	22	40	99	07

10. For the following input, what will be the final step?
Input : 1 2 10 70 90 99

(a) 1	2	10	70	90	99
(b) 1	2	90	70	10	99
(c) 99	90	70	10	2	1
(d) 1	99	2	90	10	70

11. What was the input if step III is given below?
Step III: 66 22 20 9 10 15

(a) 10	15	9	20	22	66
(b) 15	10	9	20	22	66
(c) 9	15	10	20	22	66

(d) Can't be determined

12. If the step I is given, then what will be the step III?
Step I: 110 4 8 75 105 108

(a) 108	110	4	8	105	75
(b) 110	108	4	8	75	105
(c) 110	108	105	4	8	75
(d) 108	110	8	4	75	105

Direction (13 -17): Read the following information carefully.
A word arrangement machine when given an input, rearranges them into a particular way as given below.
Input : Sudhir is an intelligent boy
Step I : an Sudhir is intelligent boy
Step II : an boy Sudhir is intelligent
Step III : an boy intelligent Sudhir is
Step IV : an boy intelligent is Sudhir
Step IV is the final step.
Answer the following questions.

13. If the input is "Let us go to school", then what will be the step III?
(a) go Let school to us (b) go Let school us to
(c) us to school Let go (d) Let us to go school

14. If the input is "To eat more is harmful", then which of the following steps will be "eat harmful is To more"?
(a) I (b) II (c) III (d) IV

15. If the input is "Honesty is the best policy", then what will be the last step?
(a) Step II (b) Step III (c) Step IV (d) Step V

16. What would be the last step if the input is given below?
Input : "Do not overtake on one way"
(a) Do not overtake on way one (b) Do not on one overtake way
(c) way not Do on overtake one (d) way one overtake do on not

17. Which step out of the following will be the final step if the input is "Human beings are broad minded"?
(a) I (b) II (c) III (d) IV

Direction (18 - 21): Read the following information carefully.
A word arrangement machine when given an input of words arranges them following a particular rule in each step. Given below are the steps of rearrangement.
Input : Birds are flying in the sky
Step I : the Birds are flying in sky
Step II : the sky Birds are flying in
Step III : the sky in Birds are flying
Step IV : the sky in flying Birds are
Step IV is the final step.
Answer the following questions as per the rule used in above steps.

18. Which step out of the following would be "the of is India Delhi capital", if the input is "Delhi is the capital of India"?
(a) III (b) IV (c) V (d) VI

19. What would be the step II for the following input?
Input: Smoking cigarette is injurious to health
(a) to Smoking is injurious cigarette health
(b) to Smoking is injurious health cigeratte
(c) to Smoking is cigarette injurious health
(d) to Smoking is cigarette health injurious

20. If step III: "Who them the out is best of", then which step will be the final one?
(a) III (b) IV (c) V (d) VI

21. Which step will be the final step if input is given below?
Input: "God helps them who help themselves"
(a) III (b) IV (c) V (d) VI

22. 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 steps of rearrangement.

Input wind packet 19 7 back 12 task 34
Step I : 34 wind packet 19 7 back 12 task
Step II : 34 back wind packet 19712 task
Step III : 34 back 19 wind packet 7 12 task
Step IV : 34 back 19 packet wind 7 12 task
Step V : 34 back 19 packet 12 wind 7 task
Step VI : 34 back 19 packet 12 task wind 7
Step VII : 34 back 19 packet 12 task 7 wind and Step VII is the last step.

As per the rules followed in the above steps, if Step II of an input is "37 desk 34 garden 5 father victory 17", then which of the following steps will be the last step? **(SOF NSO 2016)**

(a) Step III (b) Step V (c) Step IV (d) Step VI

23. 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 steps of rearrangement.

Input : same date 15 27 from 92 these 42
Step I : date same 15 27 from 92 these 42
Step I : date 92 same 15 27 from these 42
Step III : date 92 from same 15 27 these 42
Step IV : date 92 from 42 same 15 27 these
Step V : date 92 from 42 same 27 15 these
Step VI : date 92 from 42 same 27 these 15 and Step VI is the last step.

As per the rules followed in above steps, which of the following will be the last step for the given input?

Input : waste for now 28 5912 height 18 **(SOF NCO 2017)**

(a) Step VI (b) Step V (c) Step VII (d) None of these

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

Input : 8516360419976309
Step I : 9785163604196309
Step II : 978563 1636041909
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

Step V is the last step for this input.

As per the rules followed in the above steps, which of the following is the last step of the given input? **(SOF NSO 2017)**

Input : 88 26 07 36 11 64 21

(a) IV (b) VI (c) V (d) VII

25. 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 : 40 made butter 23 37 cookies salt extra 52 86 92 fell now 19
Step I : butter 19 40 made 23 37 cookies salt extra 52 86 92 fell now
Step II : cookies 23 butter 19 40 made 37 salt extra 52 86 92 fell now
Step III : extra 37 cookies 23 butter 19 40 made salt 52 86 92 fell now
Step IV : fell 40 extra 37 cookies 23 butter 19 made salt 52 86 92 now
Step V : made 52 fell 40 extra 37 cookies 23 butter 19 salt 86 92 now
Step VI : now 86 made 52 fell 40 extra 37 cookies 23 butter 19 salt 92
Step VII : salt 92 now 86 made 52 fell 40 extra 37 cookies 23 butter 19

Step VII is the last step of the arrangement.
As per the rules followed in the given steps, find out the appropriate steps for the given input and answer the question follows.
Input : 32 proud girl beautiful 49 58 97 rich family 61 72 17 nice life
What is the position of 'nice' from the left end in the last step?

(SOF IMO 2017)

(a) Fifth (b) Tenth (c) Seventh (d) Eighth

ANSWER - KEY				
1. A	**2.** C	**3.** C	**4.** A	**5.** B
6. C	**7.** D	**8.** D	**9.** B	**10.** C
11. D	**12.** C	**13.** A	**14.** C	**15.** A
16. B	**17.** C	**18.** B	**19.** C	**20.** B
21. C	**22.** C	**23.** A	**24.** A	**25.** A

EXPLANATIONS

1. (a) To obtain an ascending order of numbers in last step, one least number is taken in each step and it is followed by other numbers as it is.

2. (c) To obtain an ascending order of numbers in last step, one least number is taken in each step and it is followed by other numbers as it is.

3. (c) To obtain an ascending order of numbers in last step, one least number is taken in each step and it is followed by other numbers as it is.

4. (a) To obtain an ascending order of numbers in last step, one least number is taken in each step and it is followed by other numbers as it is.

5. (b) In each step the following rule is followed by the numbers until the original input is obtained.
1st last 2nd 2nd last 3rd 3rd last,

6. (c) In each step the following rule is followed by the numbers until the original input is obtained.
1st last 2nd 2nd last 3rd 3rd last,

7. (d) In each step the following rule is followed by the numbers until the original input is obtained.
1st last 2nd 2nd last 3rd 3rd last,

8. (d) In each step the following rule is followed by the numbers until the original input is obtained.
1st last 2nd 2nd last 3rd 3rd last,

9. (b) In the given arrangement, the numbers are arranged in descending order stepwise one number in each step, followed by the other numbers as it is until the whole set is arranged in descending order.

10. (c) In the given arrangement, the numbers are arranged in descending order stepwise one number in each step, followed by the other numbers as it is until the whole set is arranged in descending order.

11. (d) In the given arrangement, the numbers are arranged in descending order stepwise one number in each step, followed by the other numbers as it is until the whole set is arranged in descending order.

12. (c) In the given arrangement, the numbers are arranged in descending order stepwise one number in each step, followed by the other numbers as it is until the whole set is arranged in descending order.

13. (a) In the given arrangement, the words have been arranged alphabetically as in dictionary, altering the position of only one word in each step.

14. (c) In the given arrangement, the words have been arranged alphabetically as in dictionary, altering the position of only one word in each step.

15. (a) In the given arrangement, the words have been arranged alphabetically as in dictionary, altering the position of only one word in each step.

16. (b) In the given arrangement, the words have been arranged alphabetically as in dictionary, altering the position of only one word in each step.

17. (c) In the given arrangement, the words have been arranged alphabetically as in dictionary, altering the position of only one word in each step.

18. (b) In the given arrangement the words are arranged in reverse order of alphabets stepwise taken one word in each step, followed by the other words as it is till the whole set is arranged.

19. (c) In the given arrangement the words are arranged in reverse order of alphabets stepwise taken one word in each step, followed by the other words as it is till the whole set is arranged.

20. (b) In the given arrangement the words are arranged in reverse order of alphabets stepwise taken one word in each step, followed by the other words as it is till the whole set is arranged.

21. (c) In the given arrangement the words are arranged in reverse order of alphabets stepwise taken one word in each step, followed by the other words as it is till the whole set is arranged.

22. (c) Not Available

23. (a) Not Available

24. (a) Not Available

25. (a) Not Available