BYJU'S EXAM PREP

The Most Comprehensive
Preparation App For All Exams

Answer Keys of the H.W. :→

18	D
19	B
20	A
21	D
22	C

#

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UPTO 5Q

Machine Input & Output

Sometimes you have to just hang on and trust that life's storms are carrying you to better shores.

–Jane Lee Logan

BYJU'S EXAM PREP

LOGIC: In every step 2 operation(s) are performed in OUTWARD arrangement

LEFT (L) → → →

RIGHT (R) → →

↓
Numbers
↓
ascending order

↓
Words
↓
alphabetical order

Direction (1-5): Study the information given below and answer the questions based on it.

Input: transport 49 17 reside appease 99 78 34 wise jealous height 28 57 biological

Step I: 17 transport 49 reside 99 78 34 wise jealous height 28 57 biological appease

Step II: 28 17 transport 49 reside 99 78 34 wise jealous height 57 appease biological

Step III: 34 28 17 transport 49 reside 99 78 wise jealous 57 appease biological height

Step IV: 49 34 28 17 transport reside 99 78 wise 57 appease biological height jealous

Step V: 57 49 34 28 17 transport 99 78 wise appease biological height jealous reside

Step VI: 78 57 49 34 28 17 99 wise appease biological height jealous reside transport

Step VII: 99 78 57 49 34 28 17 appease biological height jealous reside transport wise

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

L3   R5   R4   L1 L2   R3   R1   R2

→ Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

1. What is the position of 'ideal' in Step IV?
A. Sixth from right end
B. Sixth from left end
C. Fifth from the left
D. Fifth from the right

$$IV) \quad L_3 L_2 L_1) \; n_5 \; (\; R_1 \; R_2 \; R_3 \; n_4$$

$$L_3 \quad R_5 \quad R_4 \quad L_1 L_2 \quad R_3 \quad R_1 \quad R_2$$

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

1. What is the position of 'ideal' in Step IV?

A. Sixth from right end

B. Sixth from left end

C. Fifth from the left

D. Fifth from the right

Ans. B.

L_3 R_5 R_4 L_1 L_2 R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

2. How many steps will be required to complete the arrangement?

A. Four

B. Six

C. Seven

D. Five

L_3 R_5 R_4 L_1 L_2 R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

2.How many steps will be required to complete the arrangement?

A. Four

B. Six

C. Seven

D. Five

Ans. D.

L_3 R_5 R_4 L_1 L_2 R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

3. What is step 4 of the given input?

A. 89 wholesale suffering 16 38 nostalgic breathing ideal

B. Wholesale suffering 16 38 nostalgic breathing ideal 89

C. 89 whole sale 38 suffering 16 nostalgic breathing ideal

D. None of these

IV) $\begin{array}{cc} 89 & 38 \\ L_3 & L_2 & L_1 \end{array}$) R_5 ($R_1 R_2 R_3 R_4$

L_3 R_5 R_4 $L_1 L_2$ R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

3. What is step 4 of the given input?

A. 89 wholesale suffering 16 38 nostalgic breathing ideal

B. Wholesale suffering 16 38 nostalgic breathing ideal 89

C. 89 whole sale 38 suffering 16 nostalgic breathing ideal

D. None of these

Ans. D.

L_3 R_5 R_4 L_1 L_2 R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

4. How many words/numbers are there in between '38' and 'suffering' in final step ?

A. One

B. Two

C. Six

D. None of these

L_3 R_5 R_4 L_1 L_2 R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

D) L_3 L_2 L_1 | R_1 R_2 R_3 R_5 R_5

1 2 3 4

4.How many words/numbers are there in between '38'and 'suffering' in final step ?

A. One

B. Two

C. Six

D. None of these

Ans. D.

L_3 R_5 R_4 $L_1 L_2$ R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

5. Which of the following represents the position of 'wholesale' in the third step?

A. Fourth from the left

B. Fifth from the right

C. Sixth from the left

D. Both A and B

$$L_3 \quad R_5 \quad R_4 \quad L_1 \, L_2 \quad R_3 \quad R_1 \quad R_2$$

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

III) $\left. L_3 \, L_2 \, L_1 \right) R_5 R_4 \left(R_1 \, R_2 \, R_3 \right.$

5. Which of the following represents the position of 'wholesale' in the third step?

A. Fourth from the left

B. Fifth from the right

C. Sixth from the left

D. Both A and B

Ans. D.

L_3 R_5 R_4 L_1 L_2 R_3 R_1 R_2

Input: 89 wholesale suffering 16 38 nostalgic breathing ideal

LOGIC : In every step 2 operations
are performed in OUTWARD arrangement.

LEFT

RIGHT

↓

↓

WORDS
↓
alphabetical
order

Number
↓
ascending
order

even : same

odd : +2

Direction (6-10): A word and 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: 32 65 transformation 95 transportation 27 transplantation translation 68 translocation

Step I: transformation 32 65 95 transportation transplantation translation 68 translocation 29

Step II: translation transformation 65 95 transportation transplantation 68 translocation 29 32

Step III: translocation translation transformation 95 transportation transplantation 68 29 32 67

Step IV: transplantation translocation translation transformation 95 transportation 29 32 67 68

Step V: transportation transplantation translocation translation transformation 29 32 67 68 97

This is the final arrangement and step V is the last step. As per the rules followed in the steps given above, find out in each of the following questions the appropriate step for the given input.

R2 R5   R1   R3   R4
Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62
        L2   L4   L3   L1   L5

6. Which step number would be the following output?
telephony telepathy teleology telegraphy 93 telescopy 23
22 39 62

A. Step IV
B. Step V
C. Step VI
D. Step II

IV) L_4 L_3 L_2 L_1 | $R_5 L_5$ (R_1 R_2 R_3 R_5

L_2 L_4 L_3 L_1 L_5

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

$R_2 R_5$ R_1 R_3 R_4

6. Which step number would be the following output?
telephony telepathy teleology telegraphy 93 telescopy 23 22 39 62

A. Step IV
B. Step V
C. Step VI
D. Step II

Ans. A.

L2   L4   L3   L1   L5
Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62
η2 η5   η1   η3   η4

7.How many elements (words or number) are there between "telephony" and "39" as they appear in last step of the output?

A. One

B. Three

C. Four

D. Five

$Last = Final = Ultimate \ step$

$Second \ last = Last \ But \ one$
$= Penultimate$

$\overset{e}{IV)} \ \overset{1}{L_5} \ \overset{2}{L_4} \ \overset{3}{L_3} \ \overset{4}{L_2} \ \overset{5}{L_1} \ | \ R_1 R_2 R_3 R_4 R_5$

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

$L_2 \quad L_4 \quad L_3 \quad L_1 \quad L_5$
$R_2 R_5 \quad R_1 \quad R_3 \quad R_4$

7.How many elements (words or number) are there between "telephony" and "39" as they appear in last step of the output?

A. One

B. Three

C. Four

D. Five

Ans. D.

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

L_2 L_4 L_3 L_1 L_5

$\Pi_2 R_5$ R_1 R_3 Π_4

8. Which of the following represents the position of telescopy in the fourth step?

A. Second from the left

B. Third from the left

C. Fifth from the right

D. Sixth from the right

IV) L_4 L_3 L_2 L_1) R_5 L_5 (R_1 R_2 R_3 R_4

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

8.Which of the following represents the position of telescopy in the fourth step?

A. Second from the left

B. Third from the left

C. Fifth from the right

D. Sixth from the right

Ans. C.

L_2 L_4 L_3 L_1 L_5

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

$R_2 R_5$ R_1 R_3 R_4

9.In Step- III, what is the position of "Telephony" from the left end?

A. Third

B. Fifth

C. Second

D. Sixth

III) $L_3 L_2 L_1$) $R_5 L_4 L_5 \pi_4$ ($R_1 \quad R_2 \quad R_3$

$L_2 \qquad L_4 \qquad L_3 \qquad L_1 \qquad L_5$

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

$\pi_2 R_5 \qquad R_1 \qquad R_3 \qquad \pi_4$

9.In Step- III, what is the position of "Telephony" from the left end?

A. Third

B. Fifth

C. Second

D. Sixth

Ans. B.

L_2 L_4 L_3 L_1 L_5

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

$n_2 R_5$ R_1 R_3 n_4

10.If in the last step all the words get rearranged in alphabetical order, which of the following words retain its original position?

A. Teleology

B. Telephony

C. Telegraphy

D. Other than given options (Telepathy)
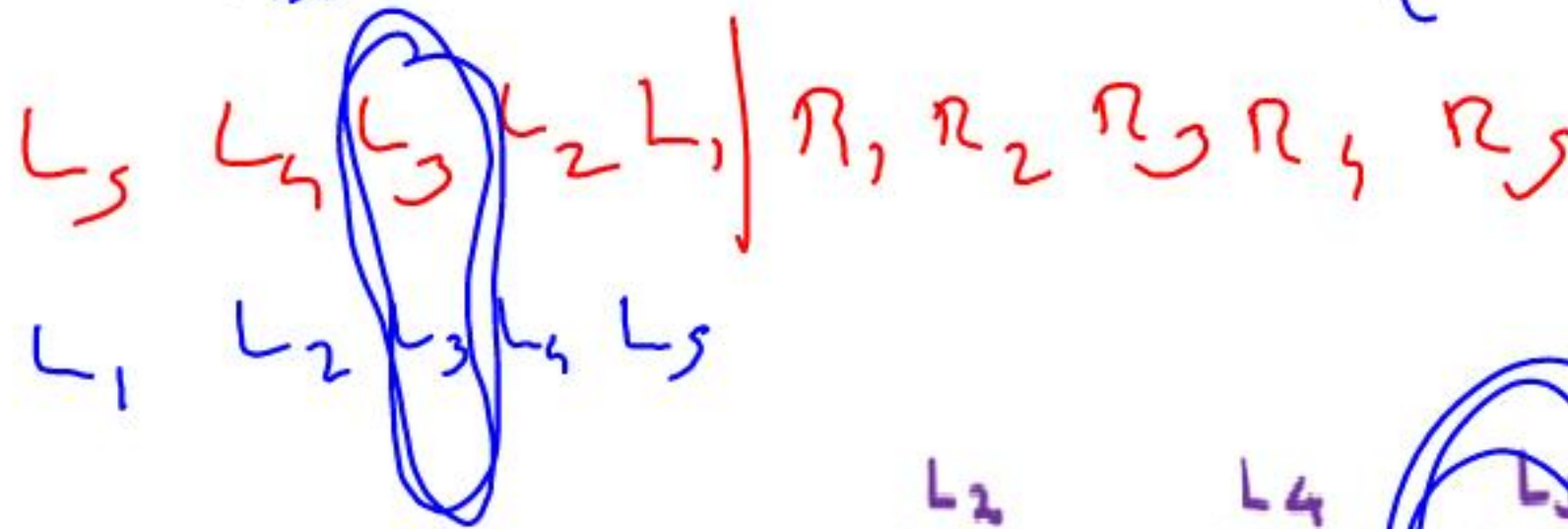
L_5 L_4 L_3 L_2 L_1 | R_1 R_2 R_3 R_4 R_5

L_1 L_2 L_3 L_4 L_5

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

L_2 L_4 L_3 L_1 L_5

$R_2 R_5$ R_1 R_3 R_4

10.If in the last step all the words get rearranged in alphabetical order, which of the following words retain its original position?

A. Teleology

B. Telephony

C. Telegraphy

D. Other than given options

Ans. D.

L_2 L_4 L_3 L_1 L_5

Input: 22 93 teleology 21 telephony telepathy 37 telegraphy telescopy 62

$n_2 R_5$ R_1 R_3 n_4

LOGIC – In every step ①

element is arranged in the

INWARD arrangement.

↳ **ATLEAST 1 AUTO/SELF**
     arrange.

The numbers are arranged
as per the sum of their digits
in the ascending order.

Direction:(11-15) Read the following information carefully to give the answers of the given questions.

A number sorting machine when given an input of numbers rearranges them in a particular manner step by step as indicated below till all the numbers are arranged. Given below is an illustration of this arrangement.

Input: 123 401 920 741 205 54 325 143 200 310
Step 1: 200 123 401 920 741 205 54 325 143 310
Step 2: 200 310 123 401 920 741 205 54 325 143
Step 3: 200 310 401 123 920 741 205 54 325 143
Step 4: 200 310 401 123 205 920 741 54 325 143
Step 5: 200 310 401 123 205 143 920 741 54 325
Step 6: 200 310 401 123 205 143 54 920 741 325
Step 7: 200 310 401 123 205 143 54 325 920 741

Step 7 is the last step of the given input. As per the rules followed in the above step, find out in the given questions the appropriate step for the given input.

⟹   **Input:** 111 521 572 221 933 135 218 256 601 514

Annotations:
- Above input numbers: 3 8 14 5 15 5 11 13 7 10
- Below input numbers: 0.1 3.1 6.1 6.2 3 5 6 2 4

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

11. What is the last step of the given input?

A. Step 7

B. Step 6

C. Step 8

D. Step 5

Input: 111 521 572 221 933 135 218 256 601 514

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

11. What is the last step of the given input?
A. Step 7
B. Step 6
C. Step 8
D. Step 5
Ans. B.

0.1 2.1 6.1 , 6.2 3   5   6   2   4

Input: 111 521 572 221 933 135 218 256 601 514

3   8   14   5   15   9   11   13   7   10

Input: 111   521   572   221   933   135   218   256   601   514

Step 1: 111   221   521   572   933   135   218   256   601   514

Step 2: 111   221   601   521   572   933   135   218   256   514

Step 3: 111   221   601   521   135   572   933   218   256   514

Step 4: 111   221   601   521   135   514   572   933   218   256

Step 5: 111   221   601   521   135   514   218   572   933   256

Step 6: 111   221   601   521   135   514   218   256   572   933

12. What is the sum of the numbers which are 4th from the right end in step 2 and 3rd from the left end in step 3?

A. 736

B. 800

C. 514

D. 332

135
601
———
736

Input: 111 521 572 221 933 135 218 256 601 514

D) 0.1   1   2   2.1 | 6.1   6.2   ③   5   6   4

III) 0.1   1   ②   2.1   3 | 6.1   6.2   5   6   4

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

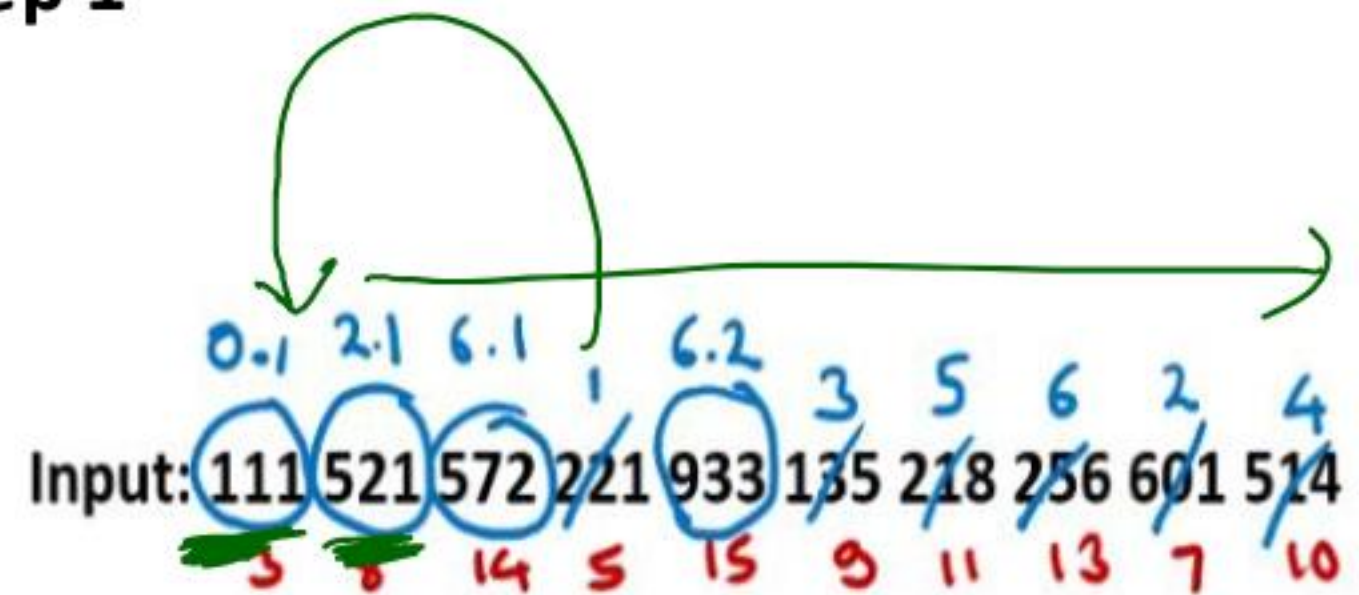Step 6: 111 221 601 521 135 514 218 256 572 933

12. What is the sum of the numbers which are 4th from the right end in step 2 and 3rd from the left end in step 3?

A. 736

B. 800

C. 514

D. 332

Ans. A.

Input: 111   521   572   221   933   135   218   256   601   514

Step 1: 111   221   521   572   933   135   218   256   601   514

Step 2: 111   221   601   521   572   933   135   218   256   514

Step 3: 111   221   601   521   135   572   933   218   256   514

Step 4: 111   221   601   521   135   514   572   933   218   256

Step 5: 111   221   601   521   135   514   218   572   933   256

Step 6: 111   221   601   521   135   514   218   256   572   933

13. In which step '111 221 521' comes together?

A. Step 3

B. Step 4

C. Step 2

D. Step 1

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

13. In which step '111 221 521' comes together?

A. Step 3

B. Step 4

C. Step 2

D. Step 1

Ans. D.

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

14. What is the step 4 of the given input?
A. 111 221 601 521 135 514 218 572 933 256
B. 111 221 601 521 135 572 933 218 256 514
C. 111 221 601 521 135 514 572 933 218 256 ✓
D. 111 221 601 521 135 514 218 256 572 933

Input: 111 521 572 221 933 135 218 256 601 514

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

14. What is the step 4 of the given input?

A. 111 221 601 521 135 514 218 572 933 256

B. 111 221 601 521 135 572 933 218 256 514

C. 111 221 601 521 135 514 572 933 218 256

D. 111 221 601 521 135 514 218 256 572 933

Ans. C.

Input: 111 521 572 221 933 135 218 256 601 514

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

15. What is the difference between the number which are at the extreme right place in the last step and 3rd from the left end in step 5?

A. 300   B. 332

C. 180   D. 110

933
601
———
332

Input: 111 521 572 221 933 135 218 256 601 514

Input: 111 521 572 221 933 135 218 256 601 514

Step 1: 111 221 521 572 933 135 218 256 601 514

Step 2: 111 221 601 521 572 933 135 218 256 514

Step 3: 111 221 601 521 135 572 933 218 256 514

Step 4: 111 221 601 521 135 514 572 933 218 256

Step 5: 111 221 601 521 135 514 218 572 933 256

Step 6: 111 221 601 521 135 514 218 256 572 933

15. What is the difference between the number which are at the extreme right place in the last step and 3rd from the left end in step 5?

A. 300

B. 332

C. 180

D. 110

Ans. B.

$$\begin{array}{ccc} \overset{F}{\underset{+2\downarrow}{}} & \overset{D}{\underset{+3\downarrow}{}} & \overset{K}{\underset{+5\downarrow}{}} \\ H & G & O \end{array}$$

LOGIC :- In every step $\underline{2}$ operation(s) are performed in the OUTWARD arrangement.

$$\begin{array}{ccc} & \overset{+2}{M} & \overset{+3}{O} & \overset{+5}{X} \\ & \downarrow & \downarrow & \downarrow \\ & O & R & B \end{array}$$

Word
↓
alphabetical order
↓

$$\begin{array}{ccc} +2 & \overset{\downarrow}{+3} & +5 \\ B & Q & B \\ \downarrow & \downarrow & \downarrow \\ D & T & V \end{array}$$

Number
↓
ascending order after multiplying by 2.

Direction: (16–20) Study the following information carefully and answer the given questions. When a word and number arrangement machine is given an input line of words and numbers, it arranges them following a rule. The following is an illustration of Input and rearrangement. (all numbers are of two digits).

Input: fdk 19 bqr 43 zeh 21 mox 42
Step I: dtv 38 fdk 43 zeh 21 mox 42
Step II: hgo 42 dtv 38 43 zeh mox 42
Step III: orb 84 hgo 42 dtv 38 43 zeh
Step IV: bhl 86 orb 84 hgo 42 dtv 38
Step IV is the last step for above input. Find out appropriate steps for the input

Input: gln 27 rsu 32 vyz 17 fea 49
(markings: 2″ 3″ 1″ 4″ above; 2′ 3′ 4′ 1′ below)

Answer the following questions based on the above information:

16. Which is the smallest number in step-IV?

A. 64

B. 17

C. 27

D. 34

54   64   34   98

Input: gln 27 rsu 32 vyz 17 fea 49

16. Which is the smallest number in step-IV?

A. 64

B. 17

C. 27

D. 34

Ans. D

Input: gln 27 rsu 32 vyz 17 fea 49
      2' 2" 3' 3" 4' 1" 1' 4"

+2 +3 +4
G L N

I O R

+2 +3 +5
R S U

T V Y

17. Which element is not the part of arrangement?

A. lor

B. hee

C. xbd

D. Hhe

+2 +3 +5
V Y Z

X B D

+2 +3 +4
F E A

H H E

Input: gln 27 rsu 32 vyz 17 fea 49

2' 2" 3' 3" 4' 1" 1' 4"

17. Which element is not the part of arrangement?
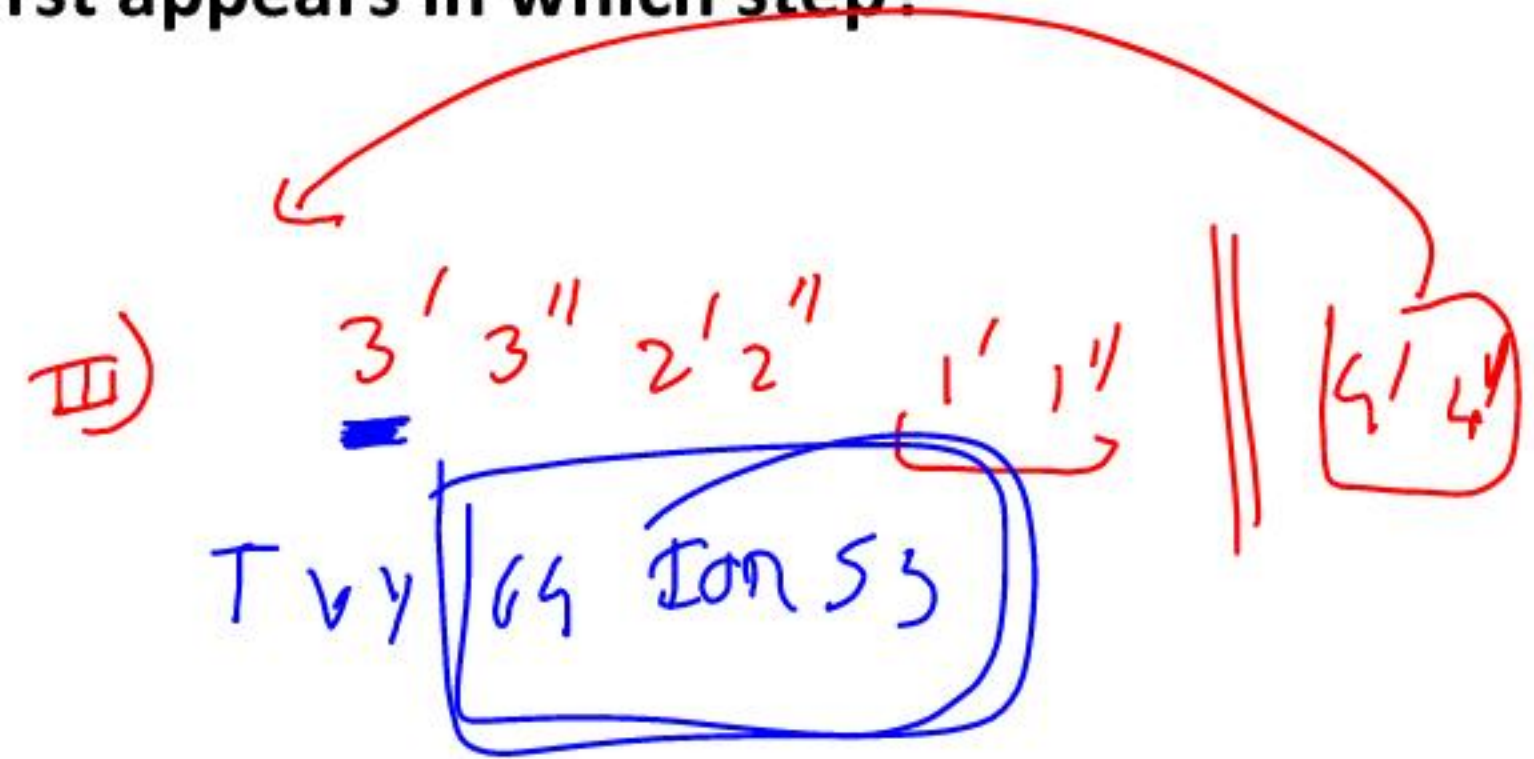
A. lor

B. hee

C. xbd

D. Hhe

Ans. B

Input: gln 27 rsu 32 vyz 17 fea 49
2' 2" 3' 3" 4' 1" 1' 4"

18. "64 ior 54" first appears in which step?

A. step III

B. step II

C. step IV

D. step V

III)   3' 3" 2' 2"   1' 1" |4' 4|

T v y | 64 Ion 53

Input: gln 27 rsu 32 vyz 17 fea 49

18. "64 ior 54" first appears in which step?

A. step III

B. step II

C. step IV

D. step V

Ans. A

Input: gln 27 rsu 32 vyz 17 fea 49

2' 2" 3' 3" 4' 1" 1' 4"

19. How many elements are there between '98' and '34' in step IV?

A. 4

B. 2

D. 0

E. None of these (S)

Input: gln 27 rsu 32 vyz 17 fea 49

19. How many elements are there between '98' and '34' in step IV?

A. 4

B. 2

D. 0

D. None of these

Ans. D

Input: gln 27 rsu 32 vyz 17 fea 49
    2' 2'' 3' 3'' 4' 1'' 1' 4''

20. Which of the following is the III step of given input?

A. xbd 98 tvy 68 ior 54 hhe 34

B. tvy 64 irr 54 hhe 34 vyz 49

C. xbd 98 tvy 64 ior 54 hhe 39

D. tvy 64 ior 54 hhe 34 vyz 49

Input: gln 27 rsu 32 vyz 17 fea 49

$2'$ $2''$ $3'$ $3''$ $4'$ $1''$ $1'$ $4''$

(II) $3'3''$ $2'2''$ $1'1''$ $5'5''$

Input : gln 27 rsu 32 vyz 17 fea 49

Step I : hhe 34 gln 27 rsu 32 vyz 49

Step II : ior 54 hhe 34 rsu 32 vyz 49

Step III : tvy 64 ior 54 hhe 34 vyz 49

Step IV : xbd 98 tvy 64 ior 54 hhe 34

20. Which of the following is the III step of given input?

A. xbd 98 tvy 68 ior 54 hhe 34

B. tvy 64 irr 54 hhe 34 vyz 49

C. xbd 98 tvy 64 ior 54 hhe 39

D. tvy 64 ior 54 hhe 34 vyz 49

Ans. D

Input: gln 27 rsu 32 vyz 17 fea 49
       2' 2" 3' 3" 4' 1" 1' 4"

Input : gln 27 rsu 32 vyz 17 fea 49

Step I : hhe 34 gln 27 rsu 32 vyz 49

Step II : ior 54 hhe 34 rsu 32 vyz 49

Step III : tvy 64 ior 54 hhe 34 vyz 49

Step IV : xbd 98 tvy 64 ior 54 hhe 34

DAY 5

ये game है Puzzle का

SBI PO/IBPS PO 2021

Matrix Based Puzzles

by Ankit sir

$(14-19)^{th}$ Nov @ 5PM

14,15,16,17 : Recorded

18,19 : LIVE