

## Step I

| U7 | IM6 | NV7 |
| :--- | :---: | :---: |
| CX6 |  | EU3 |
| X3 |  | GE5 |

Step II

| T9 | JL8 | OW4 |
| :--- | :---: | :---: |
| DY3 |  | DT5 |
| Y1 | HD3 | ND6 |

Step III


## Input:



1. In step II, which of the following letter/number occur more than twice?
A. 5
B. $p$
C. 4
D. 4 and 6
E. R
2. In Step III, what is the product of the sum of numbers in the first column and the sum of numbers in the third column?
A. 124
B. 78
C. 84
D. 108
E. None of these
3. In Step II, what is the difference between the sum of numbers in the first row and the sum of numbers in the second row?
A. - $\mathbf{- 2}$
B. 7
C. 2
D. 9
E. 3
4. In Step III, what is the sum of numbers in the third row?
A. 9
B. 8
C. 17
D. 15
E. 12

Input:


## Step I

| OS4 | IN2 | AI8 |
| :---: | :---: | :---: |
| G6 |  |  |
| EO3 | EO9 | U4 |

Step II


Step III

| U4 | GQ3 | EO2 |
| :---: | :---: | :---: |
| VS6 |  |  |
| CK2 |  | IL7 |

(INPUT)


## 1. Which of the following letters represents the element of triangle (a) of the output figure?

A.DLNRV
B.DLRNV

## C.DENOR

## D.RONED

E. None of these
2. What is the sum of the numbers obtained in the triangle (b) and triangle (d) of the output figure?
A. 127
B. 117
C. 107
D. 137

## E. None of these

3. Which of the following letters represents the element of triangle (c) of the output figure?
A.CCEILR B.CCELRI C.ECEILR D.CCEIRL E.None of these
(INPUT)
(a)


## Explanation

For Words - if the sum of the place value of all the letters of the word is divisible by 5 then the letter of the word is arranged in the English alphabetical order, but if the sum of the place value of all the letters of the word is not divisible by 5 then the alphabet of the word arranged in the alphabetical order after changing the vowel by its opposite letter in the alphabetical order.
For Numbers- if the given two digit number are divisible by both 4 and 11 then number is changed by the resultant of their sum of the square of each digit, but if the sum of the digits of the given two digit number is not divisible by both 4 and 11 then the number is replaced by the multiplication of the digits within the number.

Input: Land 73 59 Tent 35 Shut Bom 67 Find 91
Step 1: 37 Land 73 59 Tent Bom 67 Find 91 Shot
Step 2: BYm 37 Land 73 Tent 67 Find 91 Shot 61
Step 3: 69 BYm 37 Land 73 Tent 91 Shot 61 Fond Step 4: Tont 69 B7m 37 Land 91 Shot 61 Fond 75

Step 5: 93 Tent 69 B¥m 37 Shot 61 Fand 75 Lond

Input: Thin 83 Bush 57 lack $23 \quad 75$ Rest 41 Grow

4．In which of the following step of the given input，the element＂ 83 Jack 75 ＂occurs in the same order？
A．Step 2 B．Step 4 C．Step 3 D．Step 1 E．Cannot be determined
5．How many elements are there between＇ 43 ＇and＇ 59 ＇in step 4 of the given input？
A．Three B．Four C．Seven D．Six E．None of these

6．Which of the following element is fourth to the right of＇ 59 ＇in step 3 of the given input？ A． 83 B．Jack C． 75 D．Rest E．None of these

7．Which of the following option is correct with respect to step 5 of the given input？
A．R⿴囗⿱一一 st $59 \mathrm{Gr} ¥ \mathrm{w} 25 \mathrm{~B} 0$ sh 43

C． 85 R四t 59 Jøck $25 \mathrm{Gr} ¥ \mathrm{w}$
D． 85 Jøck 59 Th•n 25 B $\Delta$ sh
E．None of these

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Input: Thin 83 Bush 57 Jack 23 75 Rest 41 Grow
Step 1: 25 Thin 83 57 Jack 75 Rest 41 Grow Bosh
Step 2: Gr** 25 Thin 83 57 Jack 75 Rest Bash 43
Step 3: 59 Gr*% 25 83 Jack 75 Rest Bosh 43 Thon
Step 4: Rest 59 GG%N 25 83 Jack Bosh 43 Then 77
Step 5: 85 Rest 59 G%*w 25 Bosh 43 Then 77 Jock
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In each step, one number and one word are arranged simultaneously on both the ends. The number and words are alternatively placed on both the ends.
For numbers: The numbers are taken in an ascending order from left to right alternatively with words and in each step, $\mathbf{2}$ is added to that number after positioning.
For words: The words are taken in reverse alphabetical order with respect to the vowels present in the word (The word having ' $u$ ' arranged first, followed by ' 0 ' then ' $i$ ' and so on). The vowel letters are replaced with symbols are follows: $u=0,0=¥, i=\bullet, e=?, a=\varnothing$.

Input: 539624178565371579428134639257
Step I: 964218644166421964418642196421
Step II: 968644214166964421418696442121
Step III: 986641144296664114429866411422
Step IV: 92411109221110924118
Step V: 1531331510
Step VI: OCMCOJ
Input: 379686371252381413941965282137
7. What is the difference of largest and smallest number in step 5 ?
A. 5
B. 4
C. 3
D. 6
E. None of these
8. What is the sum of the digits of the largest number in step 4?
A. 7
B. 8
C. 6
D. 5
E. None of these
9. What is the product of digits of $3^{\text {rd }}$ smallest number in step 3 ?
A. 4608
B. 4
C. 72
D. 5184
E. None of these

Input: 379686371252381413941965282137

## Step I: 986626621184211944219641186211

Step II: 986626621184944211219686241111
Step III: 986621166298444111229866211114

## Step IV: 9221114920111492211114

Step V: 137117138

## Step VI: M G K G M H

In Step I, the digits within each number are written in decreasing order from left to right and 1 is subtracted from the prime digits.

In Step II, last three digits of $1^{\text {st }}$ number is replaced by the first three digits of $2^{\text {nd }}$ number. Similarly, last three digits of $3^{\text {rd }}$ number is replaced by the first three digits of $4^{\text {th }}$ number. Same is done with $5^{\text {th }}$ and $6^{\text {th }}$ number.

In Step III, within each numbers, odd digits are written in decreasing order followed by even digits in decreasing order.

In Step IV, leave the odd digits unchanged, sum of even digits is writter in every number.

In Step V, sum of digits within the number is written.
In Step VI, respective alphabets (in the alphabetical series) of each number are written.

Input: omnivory townskip premoved mudworts aldoxime gumlands
Step I: moinovyr piksnwot devomerp strowdum laodixem sdnalmug
Step II: oqkpqxat rkmupyqv fgxqogtr uvtqyfwo ncqfkzgo ufpcnowi
Step III: fgxqogtr ncqfkzgo oqkpqxat rkmupyqv ufpcnowi uvtqyfwo
Step IV: fggqrtxo cfgknqzo kpqqtxao kmpqrvyu cfnpwiou fqtvwyou
Step V: fqrtx cfgknqz kptx kmpqrvy cfnpw fqtvwy
Step $V$ is the last step of the input.
Find the steps of the following input.
Input: pownding underbit wordgame yawniest biofacts coalmine

## 10. Which of the following letters don't appear in step IV?

A. D
B. $Y$
C. H
D. 1
E. None of these
11. What is the fifth word from the right end in step III?
A. pwgfdtvk
B. ipkfpyqr
C. gpkoncqe
D. gociftqy
E. None of these
12. How many times " $Q$ " appears in the last step ?
A. 2
B. 3
C. 4
D. 5
E. 6

## Input: pownding underbit wordgame yawniest biofacts coalmine

In step I, the letters of the word are reversed if it starts with a consonant and the letters are reversed in sets of two letters (i.e. four sets of letters in each word) if the word starts with a vowel.
Step I: gnidnwop nuedbrti emagdrow tseinway stcafoib enimlaoc
In step II, each letter of each word is changed to the letter that comes after two successive positions alphabetically. For example: 'a' will be changed to 'c', .. 'z' will be changed to 'b'.
Step II: ipkfpyqr pwgfdtvk gociftqy vugkpyca uvechqkd gpkoncqe In step III, the new words formed are arranged in dictionary order. Step III: gociftqy gpkoncqe ipkfpyqr pwgfdtvk uvechqkd vugkpyca In step IV, the consonants are arranged alphabetically first, followed by the vowels arranged alphabetically within each word.
Step IV: cfgqtyio cgknpqeo fkppqryi dfgkptvw cdhkqveu cgkpvyau
In step V, the vowels are removed along with the consonants that appear twice.
Step V: cfgqty cgknpq fkqry dfgkptvw cdhkqv cgkpvy

Input: Vidya Batch Mains Level Reasoning Content
Step 1: Adivy Abcht Aimns Eellv (P) Cennott
Step 2: 3025 (Q) 272827
Step 3: 10 (R) 223030
Based on the below given conditions, output is created:

1. If it's an even number in the input, then double it and subtract 5 from it to get the output.
2. If it's an odd number in the input, then add sum of its digits and product of its digits to get the output.


Note:
$(A)$ is the alphabetical place value of the $4^{\text {th }}$ letter in the word $(P)$.
$(B)$ is the sum of the squared digits of the number (Q).
$(C)$ is the square of the sum of the digits of the number $(R)$.
19. What is the sum of $(\mathrm{A}),(\mathrm{B})$ and $(\mathrm{C})$ ?
A. 124
B. 135
C. 115
D. 105
E. None of these
20. What is the sum of $(X),(Y)$ and $(Z)$ ?
A. 65
B. 72
C. 75
D. 68
E. None of these

## Logic:

Step 1 - Write the letters in alphabetical order within the word. Step 2 - Add alphabetical place value of last letter with number of letters in the word. Step 3 - Product of digits then add them for adjacent numbers.

