



**EAST WEST UNIVERSITY**  
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Department of Computer Science and Engineering  
CSE 103: Section: 3,4  
Structured Programming

Semester: Fall 2021	Full Marks: 30
Examination: Term 2	Allowed Time: 80+10 min
Instructor: Taskeed Jabid	Answer all the questions

### Question 1

Write a C program which can input some persons' age and display whether number of voters or number of teenagers is more in that persons' list. [Assume that a person can vote when he became 16 years old and teen ages are from 13 to 19 years]

#### Example Input:

5  
13 14 25 26 27 30

#### Example Output:

Yes, number of voters is more than that of teenager

### Question 2

Write a C program which can input some numbers from the user and display whether the first half contains more even number or last half of contains more. [Input always even number of inputs]

#### Example Input:

6  
13 14 25 26 27 30

#### Example Output:

Last part contains more even numbers

### Question 3

Write a C program which can input some players age and display how many two players team can be formed where both of the players is eligible to play in under 19 tournaments.

#### Example Input:

6  
20 18 19 20 15 22

Output: 3

### Question 4

Read the following code carefully. What will be output of the following program if input values are on your own (Both n and x must be more than 7). Briefly explain your answer.

```
1      #include<stdio.h>
2
3      int main() {
4          int i, n, x, c;
5          scanf("%d%d", &x, &n);
6          c=0;
7          for(i=1; i<=n/2; i++) {
8              if(i%2==0 || x%i==0) {
9                  printf("%d\t", i);
10             }
11             else{
12                 c++;
13             }
14         }
15
16         printf("%d\n", c);
17
18         return 0;
19     }
```

### Question 5

Read the following code carefully. Write your own input for the following program if output value is c=5 and d=2. Briefly explain your answer.

```
1  #include<stdio.h>
2
3  int main() {
4      int i, n, x[50], c,d;
5      scanf("%d",&n);
6
7      for(i=0;i<n;i++){
8          scanf("%d",&x[i]);
9      }
10     c=0;
11     d=0;
12     for(i=1;i<n-1;i++){
13         if(x[i]>x[i-1] || x[i]<x[i+1])){
14             c++;
15         }
16         if(x[i]>x[i-1] && x[i]<x[i+1])){
17             d++;
18         }
19     }
20
21     printf("%d\n",c);
22     printf("%d\n",d);
23
24     return 0;
25 }
```

### Question 6

Read the following code carefully. What will be output of the following program if input values are random value of your own. Briefly explain your answer.

```
1  #include<stdio.h>
2
3  int main() {
4      int i, j, n, x[50], c, d;
5      scanf("%d", &n);
6
7      for(i=0; i<n; i++) {
8          scanf("%d", &x[i]);
9      }
10
11     for(i=0; i<n; i++) {
12         c=0;
13         d=0;
14         for(j=0; j<n; j++) {
15             if(x[i]>x[j]) {
16                 c++;
17             }
18             if(x[i]%2==0) {
19                 d++;
20             }
21         }
22         printf("%d\n", c);
23         printf("%d\n", d);
24     }
25     return 0;
26 }
```