



EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Final, Fall 2021

Course: CSE103 (Structured Programming), Section – 3,4
Instructor: Taskeed Jabid
Full Marks: 25
Time: 1 Hour and 15 Minutes + 15 Minutes

Note: There are FIVE questions, answer ALL of them.

1. Write a C program which can create a phone structure that consists of screen size, RAM and price of a phone. In the main function, input some phones' information using that structure and display the all information of the most expensive phone.

Sample Input

3

6.3 16 30000

5.5 32 25000

6.2 64 33000

Sample Output

6.2 64 33000

2. Write a C program which can input some persons' name and display the name which starts and ends with different case i.e. if starts with uppercase then ends with lower case and vice versa.

Sample Input

Karim

AHSan

HASNAT

suchitA

nadira

Sample Output

Karim

AHSan

suchitA

3. Write a C program which can input some students CGPA into an array and find how many of those scored more than 3.5 CGPA. [Use at least one user defined functions to solve the problem]

Sample Input

5

3.4 2.5 3.7 3.2 3.8

Sample Output

2

4. Write down the purpose of the following function. Write an appropriate main function to utilize this function. Write down a sample data for which the return value of this function will be 2.0.

```

1      #include<stdio.h>
2
3
4      float TestFunction(int *x, int n){
5          int i, c, d, s = 0;
6          float avg;
7          for(i = 0; i < n; i++){
8              s = s + x[i];
9          }
10         avg = s / (float)n;
11         for(i = 0; i < n; i++){
12             if(x[i] > avg){
13                 c++;
14             }
15         }
16         for(i = 0; i < n; i++){
17             if(x[i] < avg){
18                 c++;
19             }
20         }
21         return c / (float)d;
22     }

```

5. What will be output of the following code segment if input is your full name in all capital letters. [Please mention your full name in the beginning of this answer]. Mention an input for which output of this code will be **4 3 5**.

```
1  #include<stdio.h>
2
3  int main(){
4      char str[100];
5      int i, c = 0, d = 0, e = 0;
6      gets(str);
7
8      for(i = 0; str[i] != NULL; i++){
9          if(str[i] >= 'A' && str[i] <= 'I'){
10             c++;
11         }
12         else if(str[i] >= 'H' && str[i] <= 'X'){
13             d++;
14         }
15         else{
16             e++;
17         }
18     }
19     printf("%d %d %d", c, d, e);
20 }
```