PRE 102-Computer Science 1

Laboratory Lab #5

Objective

- **One Dimensional Array**
- **Two dimensional Array**

Q1) Correct the errors in the following C codes:

```
float  A(10), B{10};
for(int i=0;i<=10;i++)
scanf("%d%f",&A(i),B[i]);
```

```
int B[3][]={3, 4,8, 6, 10};
float
K[4]={4,3,9,10,8};
double
B[2][2]={(2,3),(1,4)};
int n =10;
int S[n];
```

```
float A()=[5, 6, 9, 4];
for(int i=0;i<4;i++)
printf("%f",A(i)*A(i));
```

Q2) Write a C program that reads an array of 10 integers. Then

1. **Print out the sum of these integers and their average**
2. **Print out positions of integers that are divisible by 3**
3. **Compute the average of even numbers**
4. **Compute the product of odd numbers**
5. **Find out the maximum and minimum and the difference between them.**

Q3) Write a C program that reads two arrays A and B of length n (given by a user). Then

1. **Compute the difference `C[i] = A[i]-B[i]`.**
2. **Compute `D[i]= A[i]²-B[i]²`**
3. **Compute `E[i] = A[i]²+B[i]²-A[i]B[i]`.**

Q4) Write a C program that reads a two dimensional array M of size (3 × 3). Then

1. **Compute the sum of all elements of M**
2. **Print out the sum of elements in every row.**
3. **The largest element located in the diagonal**
4. **Find out the transpose of M**

Q5) Make a program that reads a tow dimensional array M of size (10 × 10). The program will fill each location in M by its index summation `(M[i][j]= i+j)`. Then print the summation of the elements located at the circumference.

Q6) Trace the following C code and conclude the output:

```
int A[]={20, 13, 5, 8 , 6, 7};
int sum=0;
for (int i=0;i<6;i++)
        if(A[i]%5==0)sum+=A[i]*A[i]
      else if(A[i]%3==0) sum+=A[i]/3;
     else if(A[i]%2==0) sum-=A[i];


printf("sum=%d\n",sum);
```

```
int A[]={2, 1, 3, 0 , 5, 4};
int B[]={5,9, 10,15,20,9}
int sum=0;
for (int i=1;i<6;i++)
        sum+= B[A[i]] - B[A[i-1]];

printf("sum=%d\n",sum);
```