

Array

Question 1

What would be printed from the following program segments?

```
int x;  
int numList[4] = {2, 3, 4, 5};  
  
for (x=0; x<4; x++)  
{  
    numList[ x ] = x * numList[x];  
    printf("%d\t", numList[x]);  
}
```

Question 2

What would be printed from the following program segments?

```
int x;  
int List[4] = {5, 4, 3, 2};  
  
for (x=1; x<3; x++)  
    List[x-1] = x * List[x];  
  
for (x=0; x<4; x++)  
    printf("%d\t", List[x]);
```

Question 3

Write statements for the following questions by using the given declaration of an array:
`float group[25];`

- Assign value 50.0 to each array element.
- Print only those array elements with even indexes

Question 4

What is the output for the following program?

```
#include <stdio.h>

void Alteration (int, int []);
char z = 'X';

void main()
{
    int i, x = 5, y [5] = {9,2,-4, 7, 8};

    Alteration (x, y);
    printf ("\nIn main(): x = %d z = %c\n", x,z);

    for (i = 0; i < 5; i++)
        printf("%d ", y[i]);
}

void Alteration (int x, int y[5])
{
    int i;
    x = 99; z = 'Y';
    printf ("In function(): x = %d z = %c\n", x,z);
    for (i = 0; i < 5; i++)
    {
        y[i] += 10;
        printf("%d ", y[i]);
    }
}
```

Question 5

Write a C code based on the following instructions:

- Declare an array of 5 elements called number and root.
- Ask the user to enter 5 integer values into array number using a while loop.
- Using a for loop, retrieve the values from array number, calculate the square root of the values using the sqrt() function and store the result in array root.
- Using a do-while loop, display all the values from array root on the screen. Repeat for three times using for-loop.

SAMPLE OUTPUT

```
Enter an integer number : 23
Enter an integer number : 12
Enter an integer number : 54
Enter an integer number : 98
Enter an integer number : 76

The square root of 23 is 4.80
The square root of 12 is 3.46
The square root of 54 is 7.35
The square root of 98 is 9.90
The square root of 76 is 8.72
```

Question 6

Write a program that calculates maximum, minimum and average quiz marks for a student.

- Declare a float array called *quiz* that has 5 elements.
- Using *while* loop, get 5 quiz marks from the user.
- Using a *for* loop:
 - Find the maximum marks the user has obtained.
 - Then display the maximum marks.
- In another for loop:
 - Find the minimum marks the user has obtained.
 - Then display the minimum marks.
- In another for loop:
 - Find the total marks the user has obtained
 - Calculate the average marks.
 - Then display the average marks.

SAMPLE OUTPUT

```
Enter Quiz 1 marks : 7
Enter Quiz 2 marks : 8
Enter Quiz 3 marks : 5
Enter Quiz 4 marks : 10

Maximum quiz marks is 10.00
Minimum quiz marks is 5.00
Average quiz marks is 7.50
```