

C-Programming Lab Sheet
I Year / I Part
Faculty: Computer/Electrical/Civil

Labsheet#5

Objectives:

1. To familiarized with declaration and initialization of array.
2. To understand the concept of multidimensional array.
3. To understand the character array and string handling function.
4. Passing array to a function as an argument.

Objective#1

```
#include<stdio.h>
#include<conio.h>
void main(){
int a[7]={11,12,13,14,15,16,17,18};
printf("contents of the array\n");
for(i=0;i<=6;i++){
    printf("%d\t",a[i]);
}
getch();
}
```

Assignment 1.1 Note the error of the above program and modify it to correct the program.

Assignment 1.2 Write a program to input 7 numbers in to array and display the content of the array. Also find the sum of all the elements of the array.

Objective#2 Initialization of two dimensions array.

```
#include<stdio.h>
#include<conio.h>
#define N 3
#define M 4
void main(){
int i, j;
float a[N][M]={ { 1,2,3,4},
                {5,6,7,8},
                {9,10,11,12}
                };
printf("Contents of the array\n");
for(i=0;i<=N;i++){
    for(j=0;j<=M;j++){
        printf("%0.2f\t",a[i][j]);
    }
    printf("\n");
}
getch();}
```

Assignment 2.1

Note the output of the above program and make the comments. Modify the program to read 4*4 matrix and display the matrix.

Assignment 2.2

WAP to add the two 3*3 matrix and print the result.

Objective#3:

Character array:

3.1

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main(){
```

```
    char name[6]={'K','h','w','o','p','a'};
```

```
    printf("contents of the array\n");
```

```
    for(i=0;i<=4;i++){
```

```
        printf("%c",name[i]);
```

```
    }
```

```
    getch();
```

```
}
```

3.2

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main(){
```

```
    char name[6]={'K','h','w','o','p','a'};
```

```
    printf("contents of the array\n");
```

```
    printf("%s",name);
```

```
    getch();
```

```
}
```

3.3

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
#define NUM 5
```

```
# define LENGTH 10
```

```
void main(){
```

```
    int j;
```

```
    char name[NUM][LENGTH]={"Ram","Mohan","Shyam","Hari","Krishan"};
```

```
    for(j=0;j<NUM;j++){
```

```
        printf("%s\n",name[j]);
```

```
    }
```

```
    getch();
```

```
}
```

Assignment 3.1 Run the program 3.2 and 3.3 and note down the output. Discuss the differences between them.

Assignment 3.2 Note down the output of the program 3.3 and modify the program to input name of the person and display the name.

Assignment 3 WAP that will sort a list of names in alphabetical order, using string handling functions.

Objective#4 Array and Function:

4.1

```
#include<stdio.h>
#include<conio.h>
void modify(int a[]); /*function prototype*/
void main(){
    int count, a[3];
    printf("\n From main, before calling the function \n");
    for(count=0;count<=2;count++){
        a[count]=count++;
        printf("a[%d]=%d\n",count,a[count]);
    }
    modify(a);
    printf("\n From main, after calling the function\n");
    for(count=0;count<=2;count++){
        a[count]=count++;
        printf("a[%d]=%d\n",count,a[count]);
    }
}
void modify(int a[]){
    printf("\n From main, after calling the function\n");
    for(count=0;count<=2;count++){
        a[count]=5;
        printf("a[%d]=%d\n",count,a[count]);
    }
}
```

Assignment 4.1: Using F7 run the above program and make the comments about the program.

Assignment 4.2: WAP to read set of number from the keyboard and find out the smallest element of the array using a function.

Assignment 4.3: WAP to read the set of n number from the keyboard and sort them in ascending order using function.