# LAB WORK-09

## 01.Write a C Program to demonstrate pointer use (& and *) and Access Array Elements Using Pointers.

## CODE:

```c

#include <stdio.h>
int main()
{

   int *p, data[5], var = 10;
   p= &var;

   printf("Value of variable var is: %d", var);
   printf("\nValue of variable var is: %d", *p);
   printf("\nAddress of variable var is: %p", &var);
   printf("\nAddress of variable var is: %p", p);
   printf("\nAddress of pointer p is: %p", &p);

    printf("\nEnter elements: ");
    for (int i = 0; i < 5; ++i)
        scanf("%d", data + i);

    printf("You entered: \n");
    for (int i = 0; i < 5; ++i)
        printf("%d\n", *(data + i));
   return 0;
}
```

## OUTPUT:

```
Value of variable var is: 10
Value of variable var is: 10
Address of variable var is: 000000cfd9bffd4c
Address of variable var is: 000000cfd9bffd4c
Address of pointer p is: 000000cfd9bffd70
Enter elements: 1
2
3
4
5
You entered:
1
2
3
4
5
PS E:\Code\CSE 4192>
```

## 02.Write a program to swap value of two variables and to find biggest among three numbers using pointer.

## CODE:

Practice > Pointer > C 04_Pointer.c > main()

```c
#include <stdio.h>

int main()
{
   int x, y, z, *a, *b, temp;

   printf("Enter the value of x and y and z:\n");
   scanf("%d%d", &x, &y , &z);
   int*ptra=&x,*ptrb=&y,*ptrc=&z;
   printf("Before Swapping\nx = %d\ny = %d\n", x, y);
   a = &x;
   b = &y;
   temp = *b;
   *b = *a;
   *a = temp;
   printf("After Swapping\nx = %d\ny = %d\n", x, y);
   if((*ptra>*ptrb && *ptra>*ptrc))
       printf("biggest number=%d",*ptra);
    else if((*ptrb>*ptra && *ptrb>*ptrc))
       printf("biggest number =%d",*ptrb);
    else
       printf("biggest number=%d",*ptrc);

   return 0;
}

```

## OUTPUT:

```
Enter the value of x and y and z:
24 9 10
Before Swapping
x = 24
y = 9
After Swapping
x = 9
y = 24
biggest number =24
PS E:\Code\CSE 4192>
```

## 03.Write a C Program to Create a file and write data into file n number of students name and marks.

## CODE:

Practice > FILE > C 09_File.c > ...

```c
#include<stdio.h>
#include<stdlib.h>
#define DATA_SIZE 500
int main(){
    char name[DATA_SIZE];
    int i=0, num, marks;
    FILE *fptr;
    fptr=fopen("studentData.txt","w"); //write data in studentData.txt file
    if(fptr==NULL){
        printf("Error!.");
        exit(1);
    }
    printf("\nEnter Number of Student information to store in the file: \n");
    scanf("%d",&num);
    for(i;i<num;i++){
            printf("\nStudent %d\nName: ", i+1); //student number indexing
            scanf("%s",name); //input student name
            printf("Enter Marks: ");
            scanf("%d",&marks); //input student marks
            fprintf(fptr,"\nName: %s\nMarks=%d \n",name,marks); //store studentData in txt file
    }
    fclose(fptr);
    return 0;
}

```

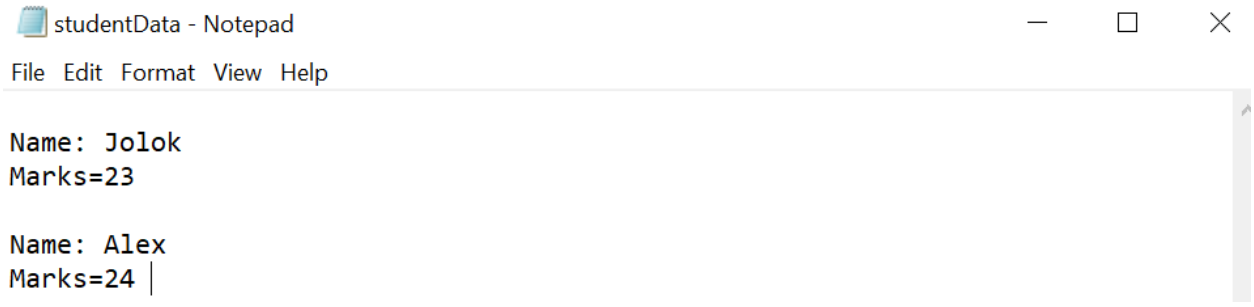
## OUTPUT:

```
Enter Number of Student information to store in the file:
2

Student 1
Name: Jolok
Enter Marks: 23

Student 2
Name: Alex
Enter Marks: 24
PS E:\Code\CSE 4192>
```

## FILE SAMPLE:



## 04.Write a C Program to Create a file and read data into file n number of students name and marks and print in console.

## CODE:

Practice > FILE > C 10_File_02.c > ...

```c
#include <stdio.h>
#include<stdlib.h>
int main()
{
    char name[50];
    int marks, i, num;
    printf("Enter number of students: ");
    scanf("%d", &num);
    FILE *fptr;
    fptr = (fopen("studentData.txt", "r"));
    if (fptr == NULL)
    {
        printf("Error!");
        exit(1);
    }
    fprintf(stdout, "Name \tMarks \n");
    for (i = 0; i < num; i++)
    {
        fscanf(fptr, "%s %d", &name, &marks);
        printf("%s \t%4d\n", name, marks);
    }
    fclose(fptr);
    return 0;
}
```

## OUTPUT:

```
Enter number of students: 2
Name    Marks
Jolok     23
Alex      24
PS E:\Code\CSE 4192>
```

## FILE SAMPLE: