



Student Name: PUROHIT PARTHKUMAR ANILBHAI  
Enrolment Number: 23SS02IT153  
Subject Name: Data structures  
Subject Code: SSCS1021

## ASSIGNMENT:4

DATE: 18/01/2024

### Practical-1

**AIM:** Write a Program to add two numbers using pointers.

**Code:**

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

```
int main() {  
    int num1 = 10;  
    int num2 = 20;  
    int *ptr1 = &num1;  
    int *ptr2 = &num2;  
    int sum;  
  
    sum = *ptr1 + *ptr2;  
  
    printf("Sum of %d and %d is: %d\n", *ptr1, *ptr2, sum);  
  
    return 0;  
}
```

```
Sum of 10 and 20 is: 30
```

Output:

### Practical-2

**Aim:** Write a program to implement call by value and call by reference.

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

```
void swap(int , int);
```

```
//prototype of the function
```

```
int main()
```

```
{ int a = 10;
```

```
int b = 20;
```



**PPSU**  
P. P. SAVANI UNIVERSITY

**Student Name: PUROHIT PARTHKUMAR ANILBHAI**

**Enrolment Number: 23SS02IT153**

**Subject Name: Data structures**

**Subject Code: SSCS1021**

```
printf("Before swapping the values in main a = %d, b = %d\n",a,b);
swap(a,b);
printf("After swapping values in main a = %d, b = %d\n",a,b);
}
void swap (int a, int b)
{
    int temp;
    temp = a;
    a=b;
    b=temp; printf("After swapping values in function a = %d, b = %d\n",a,b);
}
```

### **Output:**

#### *Output*

```
Before swapping the values in main a = 10, b = 20
After swapping values in function a = 20, b = 10
After swapping values in main a = 10, b = 20
```

### **Practical-3**

**Aim: Write a Program to multiply two values using pointers.**

**Code:**

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

```
int main()
{
    int a, b, *p, *q, mul;
    printf("Enter integer a: ");
    scanf("%d", &a);
    printf("Enter integer b: ");
    scanf("%d", &b);
    p = &a;
    q = &b;
    mul = *p * *q;
    printf("\nMultiplication of the numbers: %d", mul);
}
```



**PPSU**  
P. P. SAVANI UNIVERSITY

**Student Name:** PUROHIT PARTHKUMAR ANILBHAI

**Enrolment Number:** 23SS02IT153

**Subject Name:** Data structures

**Subject Code:** SSCS1021

**return 0;**

**}**

**Output:**

**Output-**

Enter integer a:2

Enter integer b:4

Multiplication of the numbers: 8

**Practical-4**

**Aim:** Write a program to print the memory scale used by different data types.

**Code:**

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

```
int main() {
```

```
    // Sizes of different data types in C
```

```
    printf("Size of char: %lu bytes\n", sizeof(char));
```

```
    printf("Size of int: %lu bytes\n", sizeof(int));
```

```
    printf("Size of float: %lu bytes\n", sizeof(float));
```

```
    printf("Size of double: %lu bytes\n", sizeof(double));
```

```
    return 0;
```

```
}
```

**Output:**



**PPSU**  
P. P. SAVANI UNIVERSITY

**Student Name:** PUROHIT PARTHKUMAR ANILBHAI

**Enrolment Number:** 23SS02IT153

**Subject Name:** Data structures

**Subject Code:** SSCS1021

#### Output

```
/tmp/2z15hLxQCo.o
```

```
Size of char: 1 bytes
```

```
Size of int: 4 bytes
```

```
Size of float: 4 bytes
```

```
Size of double: 8 bytes
```