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Enrolment Number: 23SS02IT153

Subject Name: Data structures
Subject Code: SSCS1021

ASSIGMENT:4 DATE:18/01/2024

Pratical-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;
}

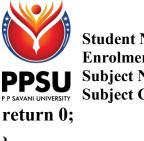
Sum of 10 and 20 is: 30
Output:
```

Pratical-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;
```

```
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  printf("Before swapping the values in main a = %d, b = %d \cdot 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
  Pratical-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);
```



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}

Output:

Output-

Enter integer a:2

Enter integer b:4

Multiplication of the numbers: 8

Pratical-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:
```



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Output

/tmp/2z15hLxQCo.o

Size of char: 1 bytes Size of int: 4 bytes Size of float: 4 bytes Size of double: 8 bytes