LAB6 : Pointers

Complete following programs (1 to 3). Replace stars (******)

Task1: Swap Two Numbers / Variables using Pointer :

```
#include "stdafx.h"
void swap(int *num1, int *num2) {
   int temp;
   temp = ********
   *num1 = ********;
   *num2 = *******;
}

void main() {
   int num1, num2;

   printf("\nEnter the first number : ");
   scanf_s("%d", &num1);
   printf("\nEnter the Second number : ");
   scanf_s("%d", &num2);

   swap**********, ************); //pass addresses of num1 and num2

   printf("\nFirst number  : %d", num1);
   printf("\nSecond number : %d\n", num2);
}
```

Output

Enter the first number : 12
Enter the Second number : 22
First number : 22
Second number : 12

Task2: Add Two Numbers Using Pointer

In this program we are going to accept two numbers from user using pointer. After accepting two numbers we are going to add two numbers by using de-reference operator in Pointer.

```
#include "stdafx.h"
void main()
{
   int *ptr1, *ptr2;
   int num,a,b;
   ptr1=*******; //assign address of a
   ptr2=*******; // assign address of b

   printf("\nEnter two numbers : ");
   scanf_s("%d%d", &a, &b);

   num = ********* + *********; //add them using
pointers

   printf("Sum = %d", num);
}
```

Output

Enter two numbers : 2 3
Sum = 5

Task3: Program using pointers to read in an array of integers and print its elements in reverse order.

```
#include "stdafx.h"
void main()
{
   int i, arr[5];
   int *ptr;

   ptr = ***********; //assign address of arr

   printf("\nEnter 5 integers into array:\n");
   for (i = 0; i < 5; i++) {
      scanf_s("%d",*********); //read elements using pointer variable
    }
   printf("\nElements of array in reverse order are :");

   for (i = ****; i >= ****; i****) //loop to print in reverse order
        printf("\nElement[%d] is %d  ", i, *********); /print elements using pointer variable
}
```

Output

Enter 5 integers into array : 11 22 33 44 55
Elements of array in reverse order are :
Element[4] is : 55
Element[3] is : 44
Element [2] is : 33
Element [1] is : 22
Element [0] is : 11

Task4: Write output of the following pogram

```
#include "stdafx.h"

void main(){
   int* pc;
   int c=22;
   pc=&c;
   printf("Address of pointer pc:%d\n",pc);
   printf("Content of pointer pc:%d\n\n",*pc);

   c=11;
   printf("Address of pointer pc:%d\n",pc);
   printf("Content of pointer pc:%d\n\n",*pc);

   *pc=2;
   printf("Value of c:%d\n\n",c);

}
```

Output

Address of pointer pc: **********
Content of pointer pc: **********

Address of pointer pc: **********
Content of pointer pc: **********

Value of c: **********

Task5: Write a program to find the sum of six numbers with arrays and pointers.

Sample Output

Enter 6 numbers:
2
3
4
5
3
4
Sum=21