**C PROGRAMS LAB MANUAL 7**

1. Write a program in C to swap elements using call by reference.

CODE :

#include <stdio.h>

void swap(int\*, int\*);

int main()

{

int x, y;

printf("Enter the value of x and y\n");

scanf("%d%d",&x,&y);

printf("Before Swapping\nx = %d\ny = %d\n", x, y);

swap(&x, &y);

printf("After Swapping\nx = %d\ny = %d\n", x, y);

return 0;

}

void swap(int \*a, int \*b)

{

int temp;

temp = \*b;

\*b = \*a;

\*a = temp;

}

2.Write a program in C to add two numbers using pointers.

CODE:

#include <stdio.h>

int main()

{

int first, second, \*a, \*b, sum;

printf("Enter two integers to add\n");

scanf("%d%d", &first, &second);

a = &first;

b = &second;

sum = \*a + \*b;

printf("Sum of the numbers = %d\n", sum);

return 0;

}

3. Write a program in C to find the maximum number between two numbers using a pointer.

CODE:

#include <stdio.h>

#include <stdlib.h>

void main()

{

int no,no1,\*ptr1=&no,\*ptr2=&no1;

printf("\n\n Find the maximum number between two numbers :\n");

printf(" Input the first number : ");

scanf("%d", ptr1);

printf(" Input the second number : ");

scanf("%d", ptr2);

if(\*ptr1>\*ptr2)

{

printf("\n\n %d is the maximum number.\n\n",\*ptr1);

}

else

{

printf("\n\n %d is the maximum number.\n\n",\*ptr2);

}

}

4. Write a program in C to store n elements in an array and print the elements using pointer.

#include <stdio.h>

int main()

{

int arr[25], i,n;

printf(" Input the number of elements to store in the array :");

scanf("%d",&n);

printf(" Input %d number of elements in the array :\n",n);

for(i=0;i<n;i++)

{

printf(" element - %d : ",i);

scanf("%d",arr+i);

}

printf(" The elements you entered are : \n");

for(i=0;i<n;i++)

{

printf(" element - %d : %d \n",i,\*(arr+i));

}

return 0;

}

5.Write a program in C to find the factorial of a given number using pointers

CODE:

#include <stdio.h>

void findFact(int,int\*);

int main()

{

int fact;

int num1;

printf(" Input a number : ");

scanf("%d",&num1);

findFact(num1,&fact);

printf(" The Factorial of %d is : %d \n\n",num1,fact);

return 0;

}

void findFact(int n,int \*f) {

int i;

\*f =1;

for(i=1;i<=n;i++)

\*f=\*f\*i;

}

6. Write a program in C to sort an array using Pointer

CODE:

#include <stdio.h>

void main()

{

int \*a,i,j,tmp,n;

printf(" Input the number of elements to store in the array : ");

scanf("%d",&n);

printf(" Input %d number of elements in the array : \n",n);

for(i=0;i<n;i++)

{

printf(" element - %d : ",i+1);

scanf("%d",a+i);

}

for(i=0;i<n;i++)

{

for(j=i+1;j<n;j++)

{

if( \*(a+i) > \*(a+j))

{

tmp = \*(a+i);

\*(a+i) = \*(a+j);

\*(a+j) = tmp;

}

}

}

printf("\n The elements in the array after sorting : \n");

for(i=0;i<n;i++)

{

printf(" element - %d : %d \n",i+1,\*(a+i));

}

printf("\n");

}

7.Write a program in C to add numbers using call by reference

CODE:

OUTPUT: #include <stdio.h>

long addTwoNumbers(long \*, long \*);

int main()

{

long no1, no2, sum;

printf(" Input the first number : ");

scanf("%ld", &no1);

printf(" Input the second number : ");

scanf("%ld", &no2);

sum = addTwoNumbers(&no1, &no2);

printf(" The sum of %ld and %ld is %ld\n\n", no1, no2, sum);

return 0;

}

long addTwoNumbers(long \*n1, long \*n2)

{

long sum;

sum = \*n1 + \*n2;

return sum;

}