FUCTIONS

**1 Write a program in C to show the simple structure of a function.**

#include <stdio.h>

int sum (int, int);//function declaration

main ()

{

int total;

printf("\n\n Function : a simple structure of function :\n");

printf("------------------------------------------------\n");

total = sum (5, 6);//function call

printf ("The total is : %d\n", total);

}

int sum (int a, int b) //function definition

{

int s;

s=a+b;

return s; //function returning a value

}

**2. Write a program in C to find the square of any number using the function.**

#include <stdio.h>

double square(double num)

{

return (num \* num);

}

main()

{

int num;

double n;

printf("\n\n Function : find square of any number :\n");

printf("------------------------------------------------\n");

printf("Input any number for square : ");

scanf("%d", &num);

n = square(num);

printf("The square of %d is : %.2f\n", num, n);

}

**3.**Write a program in C to check a given number is even or odd using the function

#include <stdio.h>

int checkOddEven(int n1)

{

if(n1%2==0)

return (1);

else

return(0);

}

main()

{

int n1;

printf("\n\n Function : check the number is even or odd:\n");

printf("------------------------------------------------\n");

printf("Input any number : ");

scanf("%d", &n1);

// If checkOddEven() function returns 1 then the number is odd

if(checkOddEven(n1))

{

printf("The entered number is odd.\n\n");

}

else

{

printf("The entered number is even.\n\n");

}

}

Sample Output:

Function : check the number is even or odd:

------------------------------------------------

Input any number : 5

The entered number is odd.

**4. Write a program in C to get largest element of an array using the function.**

#include<stdio.h>

#define MAX 100

int findMaxElem(int []);

int n;

int main()

{

int arr1[MAX],mxelem,i;

printf("\n\n Function : get largest element of an array :\n");

printf("-------------------------------------------------\n");

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

scanf("%d",&n);

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

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

{

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

scanf("%d",&arr1[i]);

}

mxelem=findMaxElem(arr1);

printf(" The largest element in the array is : %d\n\n",mxelem);

return 0;

}

int findMaxElem(int arr1[])

{

int i=1,mxelem;

mxelem=arr1[0];

while(i < n)

{

if(mxelem<arr1[i])

mxelem=arr1[i];

i++;

}

return mxelem;

}

**Output:**

Function : get largest element of an array :

-------------------------------------------------

Input the number of elements to be stored in the array :5

Input 5 elements in the array :

element - 0 : 1

element - 1 : 2

element - 2 : 3

element - 3 : 4

element - 4 : 5

The largest element in the array is : 5

5.**Write a C programming to find out maximum and minimum of some values using function which will return an array.**

# include <stdio.h>

# define max 10

int \*maxmin(int ar[], int v);

int main()

{

int arr[max];

int n,i, \*p;

printf("Number of values you want to input: ");

scanf("%d",&n);

printf("Input %d values\n", n);

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

scanf("%d",&arr[i]);

p=maxmin(arr,n);

printf("Minimum value is: %d\n",\*p++);

printf("Maximum value is: %d\n",\*p);

}

int \*maxmin(int arra1[], int v)

{

int i;

static int result\_mm[2];

result\_mm[0]=arra1[0];

result\_mm[1]=arra1[0];

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

{

if(result\_mm[0] > arra1[i])

result\_mm[0]=arra1[i];

if(result\_mm[1]< arra1[i])

result\_mm[1]= arra1[i];

}

return result\_mm;

}

**Output:**

Number of values you want to input: Input 5 values

Minimum value is: 11

Maximum value is: 65

**6.Write a program in C to swap two numbers using the function.**

The simplest method to swap two variables is to use a third temporary variable :

#include<stdio.h>

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

main()

{

int n1,n2;

printf("\n\n Function : swap two numbers using function :\n");

printf("------------------------------------------------\n");

printf("Input 1st number : ");

scanf("%d",&n1);

printf("Input 2nd number : ");

scanf("%d",&n2);

printf("Before swapping: n1 = %d, n2 = %d ",n1,n2);

swap(&n1,&n2);

printf("\nAfter swapping: n1 = %d, n2 = %d \n\n",n1,n2);

}

void swap(int \*p,int \*q)

{

int tmp;

tmp = \*p; // tmp store the value of n1

\*p=\*q; // \*p store the value of \*q that is value of n2

\*q=tmp; // \*q store the value of tmp that is the value of n1

}

Output:

Function : swap two numbers using function :

------------------------------------------------

Input 1st number : 2

Input 2nd number : 4

Before swapping: n1 = 2, n2 = 4

After swapping: n1 = 4, n2 = 2