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

**#include <stdio.h>**

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

**main (void)**

**{**

**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**

**}**

**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);**

**}**

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

**#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**

**}**

**Write a program in C to check if 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");

}

}

**Write a program in C to convert a decimal number to a binary number using the function.**

**#include<stdio.h>**

**long toBin(int);**

**main()**

**{**

**long bno;**

**int dno;**

**printf("\n\n Function : convert decimal to binary :\n");**

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

**printf(" Input any decimal number : ");**

**scanf("%d",&dno);**

**bno = toBin(dno);**

**printf("\n The Binary value is : %ld\n\n",bno);**

**}**

**long toBin(int dno)**

**{**

**long bno=0,remainder,f=1;**

**while(dno != 0)**

**{**

**remainder = dno % 2;**

**bno = bno + remainder \* f;**

**f = f \* 10;**

**dno = dno / 2;**

**}**

**return bno;**

**}**

**Function : convert decimal to binary :**

**-------------------------------------------**

**Input any decimal number : 65**

**The Binary value is : 1000001**

**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;**

**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);**

**}**

**int findMaxElem(int arr1[])**

**{**

**int i=1,mxelem;**

**mxelem=arr1[0];**

**while(i < n)**

**{**

**if(mxelem<arr1[i])**

**mxelem=arr1[i];**

**i++;**

**}**

**return mxelem;**

**}**

**C program to Copy string without using**strcpy()**function by creating our own function which uses pointers.**

**#include<stdio.h>**

**void copy\_string(char\*, char\*);**

**main()**

**{**

**char source[100], target[100];**

**printf("Enter source string\n");**

**gets(source);**

**copy\_string(target, source);**

**printf("Target string is \"%s\"\n", target);**

**}**

**void copy\_string(char \*target, char \*source)**

**{**

**while(\*source)**

**{**

**\*target = \*source;**

**source++;**

**target++;**

**}**

**\*target = '\0';**

**}**

**C program to get the length of a string using pointers**

**#include <stdio.h>**

**int countChars(char \* );**

**main()**

**{**

**char str[100];**

**int length;**

**printf("Enter any string: ");**

**gets(str);**

**length = countChars(str);**

**printf("The length of the string is: %d", length);**

**}**

**int countChars(char \* ptr)**

**{**

**int count = 0;**

**while ( \*ptr != '\0')**

**{**

**count++;**

**ptr++;**

**}**

**return count;**

**}**

**// C program to add two numbers using call by reference approach**

**#include <stdio.h>**

**int add(int \*ptr1, int \*ptr2)**

**{**

**int res;**

**res = \*ptr1 + \*ptr2;**

**return res;**

**}**

**main()**

**{**

**int a, b, result;**

**printf("Enter the first number: ");**

**scanf("%d", &a);**

**printf("Enter the second number: ");**

**scanf("%d", &b);**

**result = add(&a, &b);**

**printf("The sum of the two numbers is: %d", result);**

**}**