1. Write a C program to count number of digits in a number.

#include <stdio.h>

void main()

{

int num,count=0;

printf("TO FIND NUMBER OF DIGITS IN NUMBER\n");

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

printf("enter the required number:\n");

scanf("%d",&num);

while(num!=0)

{

num/=10;

++count;

}

printf("number of digits are:%d\n",count);

}

1. Write a C program to swap first and last digits of a number.

#include <stdio.h>

void main()

{

int num,fn,ln;

printf("SWAP FIRST AND LAST DIGIT OF A NUMBER\n");

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

printf("enter the required number:\n");

scanf("%d",&num);

ln=num%10;

printf("the last digit=%d\n",ln);

fn=num;

while(num>=10)

{

num/=10;

}

fn=num;

printf("the first digit=%d\n",fn);

fn=fn+ln;

ln=fn-ln;

fn=fn-ln;

printf("swapped numbers\n");

printf("firstdigit=%d lastdigit=%d",fn,ln);

}

1. Write a C program to find frequency of each digit in a given integer.

#include <stdio.h>

void main()

{

long long num;

int freq[10],lastdigit;

printf("enter the required number:\n");

scanf("%lld",&num);

for(int i=0;i<10;i++)

{

freq[i]=0;

}

while(num!=0)

{

lastdigit=num%10;

num/=10;

freq[lastdigit]++;

}

printf("frequency of each digit of number =\n",num);

for(int i=0;i<10;i++)

{

printf("frequency of %d=%d\n",i,freq[i]);

}

}

1. Write a C program to enter a number and print it in words.

#include <stdio.h>

void main()

{

int num,digit;

printf("enter any number:");

scanf("%d",&num);

while(num!=0)

{

digit=(digit\*10)+num%10;

num/=10;

}

while(digit!=0)

{

switch(digit%10)

{

case 0:

printf("zero");

break;

case 1:

printf("one");

break;

case 2:

printf("two");

break;

case 3:

printf("three");

break;

case 4:

printf("four");

break;

case 5:

printf("five");

break;

case 6:

printf("six");

break;

case 7:

printf("seven");

break;

case 8:

printf("eight");

break;

case 9:

printf("nine");

break;

}

digit=digit/10;

}

}

1. Write a C program to print all ASCII character with their values.

#include <stdio.h>

int main()

{

int i;

for(i=0;i<=225;i++)

{

printf("ASCII value of character %c=%d\n",i,i);

}

return 0;

}

1. Write a C program to find one's complement of a binary number.

#include <stdio.h>

#define SIZE 8

void main()

{

char binary[SIZE+1],onescomp[SIZE+1];

int i;

printf("enter %d bit binary value:\n",SIZE);

scanf("%s",binary);

printf("enter the binary number:\n");

scanf("%s",binary);

printf("the ones complement:\n");

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

{

if(binary[i]=='1')

onescomp[i]='0';

else if(binary[i]=='0')

onescomp[i]='1';

}

onescomp[SIZE]='\0';

printf("%s",onescomp);

}

1. Write a C program to find two's complement of a binary number.

#include <stdio.h>

int main()

{

int n;

printf("Enter the number of bits do you want to enter :");

scanf("%d",&n);

char binary[n+1];

char onescomplement[n+1];

char twoscomplement[n+1];

int carry=1;

printf("\nEnter the binary number : ");

scanf("%s", binary);

printf("%s", binary);

printf("\nThe ones complement of the binary number is :");

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

{

if(binary[i]=='0')

onescomplement[i]='1';

else if(binary[i]=='1')

onescomplement[i]='0';

}

onescomplement[n]='\0';

printf("%s",onescomplement);

printf("\nThe twos complement of a binary number is : ");

for(int i=n-1; i>=0; i--)

{

if(onescomplement[i] == '1' && carry == 1)

{

twoscomplement[i] = '0';

}

else if(onescomplement[i] == '0' && carry == 1)

{

twoscomplement[i] = '1';

carry = 0;

}

else

{

twoscomplement[i] = onescomplement[i];

}

}

twoscomplement[n]='\0';

printf("%s",twoscomplement);

return 0;

}

1. Write a C program to convert Binary to Octal number system.

#include <stdio.h>

void main()

{

int octalconstant[]={0,1,10,11,100,101,111};

long long binary,octal;

int digit,place,i;

octal=0;

place=1;

printf("enter the binary number:\n");

scanf("%lld",&binary);

while(binary!=0)

{

digit=binary%1000;

for(i=0;i<=8;i++)

{

if(octalconstant[i]==digit)

{

octal=(i\*place)+octal;

break;

}

}

binary/=1000;

place\*=10;

}

printf("the octal number system:%lld",octal);

}

1. Write a C program to convert Binary to Decimal number system.

#include <stdio.h>

#include<math.h>

int main()

{

long int n,x=0,i,a;

printf("enter the binary number:");

scanf("%ld",&n);

printf("decimal number of %ld:",n);

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

{

a=n%10;

x=(a)\*(pow(2,i))+x;

n/=10;

}

printf("%ld",x);

return 0;

}

1. Write a C program to convert Binary to Hexadecimal number system.

#include <stdio.h>

int main()

{

long int binary,hexanum=0,rem,i=1;

printf("enter the binary number:\n");

scanf("%ld",&binary);

while(binary!=0)

{

rem=binary%10;

hexanum=hexanum+rem\*i;

i=i\*2;

binary=binary/10;

}

printf("the hexadecimal number=%ld",hexanum);

return 0;

}

1. Write a C program to convert Octal to Binary number system.

#include <stdio.h>

void main()

{

int octalconstant[]={0,1,10,11,100,101,110,111};

long int octal=0,binary;

int rem,place=1;

printf("enter octal number:\n");

scanf("%ld",&octal);

while(octal!=0)

{

rem=octal%10;

binary=(octalconstant[rem]\*place)+binary;

octal/=10;

place\*=1000;

}

printf("binary value=%ld",binary);

}

1. Write a C program to convert Octal to Decimal number system.

#include <stdio.h>

#include<math.h>

int main()

{

long int octal,decimal=0;

int rem,i=0;

printf("enter the octal number:\n");

scanf("%ld",&octal);

while(octal!=0)

{

rem=octal%10;

decimal=(rem\*pow(8,i++))+decimal;

octal/=10;

}

printf("decimal value =%ld",decimal);

}

1. Write a C program to convert Octal to Hexadecimal number system.

#include <stdio.h>

#include<string.h>

int main()

{

int octaltobinary[]={0,1,10,11,100,101,110,111};

char hexadecimal[10];

char hex[10];

long int binary=0;

int octal;

int rem=0;

int position=1;

int len=0;

int k=0;

printf("Enter a octal number");

scanf("%d",&octal);

while(octal!=0)

{

rem=octal%10;

binary=octaltobinary[rem]\*position+binary;

octal=octal/10;

position=position\*1000;

}

printf("The binary number is : %ld",binary);

while(binary > 0)

{

rem = binary % 10000;

switch(rem)

{

case 0:

strcat(hexadecimal, "0");

break;

case 1:

strcat(hexadecimal, "1");

break;

case 10:

strcat(hexadecimal, "2");

break;

case 11:

strcat(hexadecimal, "3");

break;

case 100:

strcat(hexadecimal, "4");

break;

case 101:

strcat(hexadecimal, "5");

break;

case 110:

strcat(hexadecimal, "6");

break;

case 111:

strcat(hexadecimal, "7");

break;

case 1000:

strcat(hexadecimal, "8");

break;

case 1001:

strcat(hexadecimal, "9");

break;

case 1010:

strcat(hexadecimal, "A");

break;

case 1011:

strcat(hexadecimal, "B");

break;

case 1100:

strcat(hexadecimal, "C");

break;

case 1101:

strcat(hexadecimal, "D");

break;

case 1110:

strcat(hexadecimal, "E");

break;

case 1111:

strcat(hexadecimal, "F");

break;

}

len=len+1;

binary /= 10000;

}

for(int i=len-1;i>=0;i--)

{

hex[k]=hexadecimal[i];

k++;

}

hex[len]='\0';

printf("\nThe hexadecimal number is :");

for(int i=0; hex[i]!='\0';i++)

{

printf("%c",hex[i]);

}

return 0;

}

1. Write a C program to convert Decimal to Binary number system.

#include <stdio.h>

int main()

{

int n,i,a[i];

printf("enter decimal number:");

scanf("%d",&n);

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

{

a[i]=n%2;

n/=2;

}

printf("\nbinary number=%d",a[i]);

for(i=i-1;i>=0;i--)

{

printf("%d",a[i]);

}

return 0;

}

1. Write a C program to convert Decimal to Octal number system.

#include <stdio.h>

int main()

{

int n,i,a[i];

printf("enter the decimal number:");

scanf("%d",&n);

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

{

a[i]=n%8;

n/=8;

}

printf("the octal number=");

for(i=i-1;i>=0;i--)

{

printf("%d",a[i]);

}

return 0;

}

1. Write a C program to convert Decimal to Hexadecimal number system.

#include <stdio.h>

void main()

{

long int decnum,i,temp=0,rem=0;

char hex[32];

printf("enterr the decimal number:");

scanf("%ld",&decnum);

while(decnum>0)

{

rem=decnum%16;

switch(rem)

{

case 10:

hex[temp]='A';break;

case 11:

hex[temp]='B';break;

case 12:

hex[temp]='C';break;

case 13:

hex[temp]='D';break;

case 14:

hex[temp]='E';break;

case 15:

hex[temp]='F';break;

default:

hex[temp]=(rem)+0\*30;

}

decnum/=16;

temp++;

}

printf("hexadecimal number=");

for(temp=temp-1;temp>=0;temp--)

{

printf("%c",hex[temp]);

}

}

1. Write a C program to convert Hexadecimal to Binary number system.

#include <stdio.h>

#include <string.h>

void main()

{

char hex[17];

int i=0;

printf("enter the hexadecimal value:");

scanf("%s",&hex);

while(hex[i])

{

switch(hex[i])

{

case '0':

printf("0000");

break;

case '1':

printf("0001");

break;

case '2':

printf("0010");

break;

case '3':

printf("0011");

break;

case '4':

printf("0100");

break;

case '5':

printf("0101");

break;

case '6':

printf("0110");

break;

case '7':

printf("0111");

break;

case '8':

printf("1000");

break;

case '9':

printf("1001");

break;

case 'A':

printf("1010");

break;

case 'B':

printf("1011");

break;

case 'C':

printf("1100");

break;

case 'D':

printf("1101");

break;

case 'E':

printf("1110");

break;

case 'F':

printf("1111");

break;

}

i++;

}

}

1. Write a C program to convert Hexadecimal to Octal number system.

#include <stdio.h>

#include <string.h>

void main()

{

char hex[17];

long long octal,bin,place;

int i=0,rem,var;

printf("enter hexadecimal number:");

scanf("%s",&hex);

octal=0ll;

bin=0ll;

place=0ll;

while(hex[i])

{

bin=bin\*place;

switch(hex[i])

{

case '0':

bin+=0000;

break;

case '1':

bin+=0001;

break;

case '2':

bin+=0010;

case '3':

bin+=0011;

break;

case '4':

bin+=0100;

break;

case '5':

bin+=0101;

break;

case '6':

bin+=0110;

break;

case '7':

bin+=0111;

break;

case '8':

bin+=1000;

break;

case '9':

bin+=1001;

break;

case 'A':

bin+=1010;

break;

case 'B':

bin+=1011;

break;

case 'C':

bin+=1100;

break;

case 'D':

bin+=1101;

break;

case 'E':

bin+=1110;

break;

case 'F':

bin+=1111;

break;

default:

printf("invalid");

}

i++;

place=10000;

}

place=1;

while(bin>0)

{

rem=bin%1000;

switch(rem)

{

case 0:

var=0;

break;

case 1:

var=1;

break;

case 10:

var=2;

break;

case 11:

var=3;

break;

case 100:

var=4;

break;

case 101:

var=5;

break;

case 110:

var=6;

break;

case 111:

var=7;

break;

}

octal=(place\*var)+octal;

place\*=10;

bin/=1000;

}

printf("the hexadecimal number is=%s\n",hex);

printf("the octal value=%lld",octal);

}

1. Write a C program to convert Hexadecimal to Decimal number system

#include <stdio.h>

#include <math.h>

int main()

{

int hexanum,rem,count=0,decnum=0;

printf("enter the hexadecimal number:");

scanf("%d",&hexanum);

while(hexanum>0)

{

rem=hexanum%10;

decnum=decnum+rem\*pow(16,count);

hexanum/=10;

count++;

}

printf("the decimal value =%d",decnum);

return 0;

}