DAY -2 FOC

1.Decimal to binary conversion

#include<stdio.h>

int main()

{

int n,rem,res = 0,dec,base = 1;

printf("enter decimal number:");

scanf("%d",&dec);

while(dec!=0)

{

rem = dec % 2;

res = res + (rem \* base);

base = base\*10;

dec = dec / 2;

}

printf("the binary value:%d",res);

}

OUTPUT: enter decimal number:13

the binary value:1101

2.Binary to decimal conversion

#include<stdio.h>

int main()

{

int binary,dec = 0,rem ,base = 1;

printf("enter binary number:");

scanf("%d",&binary);

while(binary)

{

rem = binary % 10;

dec = dec + (rem\*base);

base = base \* 2;

binary = binary / 10;

}

printf("the decimal value is:%d",dec);

}

OUTPUT: enter binary number:0111

the decimal value is:7

3.Decimal to octal conversion

#include<stdio.h>

int main()

{

int dec,oct = 0,rem ,base = 1;

printf("enter decimal number:");

scanf("%d",&dec);

while(dec!=0)

{

rem = dec % 8;

oct = oct + (rem\*base);

base = base \* 10;

dec = dec / 8;

}

printf("the octal value is:%d",oct);

}

OUTPUT: enter decimal number:30

the octal value is:36

4.Decimal to hexadecimal conversion

#include <stdio.h>

int main()

{

long dec, temp, rem;

int i, j = 0;

char hex[100];

printf("Enter decimal number: ");

scanf("%ld", &dec);

temp = dec;

while (temp != 0)

{

rem = temp % 16;

if (rem < 10)

hex[j++] = 48 + rem;

else

hex[j++] = 55 + rem;

temp = temp / 16;

}

// display integer into character

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

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

}

OUTPUT: Enter decimal number: 243

F3

5.Octal to decimal conversion

#include<stdio.h>

int main()

{

int dec = 0,oct,rem ,base = 1;

printf("enter octal number:");

scanf("%d",&oct);

while(oct!=0)

{

rem = oct % 10;

dec = dec + (rem\*base);

base = base \* 8;

oct = oct / 10;

}

printf("the decimal value is:%d",dec);

}

OUTPUT: enter octal number:247

the decimal value is:167

6.Octal to binary conversion

#include<stdio.h>

int main()

{

char octalnum[100];

long i;

printf("Enter any octal number: ");

scanf("%s", octalnum);

printf("Equivalent binary value: ");

while (octalnum[i])

{

switch (octalnum[i])

{

case '0':

printf("000"); break;

case '1':

printf("001"); break;

case '2':

printf("010"); break;

case '3':

printf("011"); break;

case '4':

printf("100"); break;

case '5':

printf("101"); break;

case '6':

printf("110"); break;

case '7':

printf("111"); break;

default:

printf("\n Invalid octal digit %c ", octalnum[i]);

}

i++;

}

}

OUTPUT: Enter any octal number: 247

Equivalent binary value: 010100111

7.Hexadecimal to binary conversion

#include<stdio.h>

int main()

{

char hex[100];

long i;

printf("Enter hexadecimal number: ");

scanf("%s", hex);

printf("Equivalent binary value: ");

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;

default:

printf("\n Invalid octal digit %c ", hex[i]);

}

i++;

}

}

OUTPUT: Enter hexadecimal number: B2E

binary value: 101100101110

8.Binary to octal conversion

#include<stdio.h>

int main()

{

int binary,oct = 0,dec = 0,base = 1,base1 = 1,rem ,rem1;

printf("enter binary number:");

scanf("%d",&binary);

while(binary)

{

rem = binary % 10;

dec = dec + (rem \* base);

base = base \* 2;

binary = binary / 10;

}

//printf("decimal number is:%d\n",dec);

while(dec!=0)

{

rem1 = dec % 8;

oct = oct + (rem1 \* base1);

base1 = base1 \* 10;

dec = dec / 8;

}

printf("octal number is:%d",oct);

}

OUTPUT: enter binary number:11101011

octal number is:353

9.Octal to hexadecimal conversion

#include<stdio.h>

int main()

{

int dec = 0,i=0,j,rem,base = 1,oct,temp,hex[100],rem1;

printf("enter octal number:");

scanf("%d",&oct);

while(oct!=0)

{

rem = oct % 10;

dec = dec + rem \* base;

base = base \* 8;

oct = oct / 10;

}

// printf("decimal number is:%d\n",dec);

// temp = dec;

while(dec!=0)

{

rem1 = dec % 16;

if (rem1 < 10)

hex[j++] = 48 + rem1;

else

hex[j++] = 55 + rem1;

dec = dec / 16;

}

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

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

}

OUTPUT: enter octal number:5456

eB2E