S.No: 10	Exp. Name: ***Write a C program to convert a Decimal number into binary, octal and hexadecimal number using a single user defined function.***	Date:2023-04-03

Aim:

Write a C program to convert a Decimal number into binary, octal and hexadecimal number using a single user defined function.

At the time of execution, the program should print the message on the console as:

Enter a positive decimal number :

```
For example, if the user gives the input as:
```

Enter a positive decimal number : 789

```
then the program should print the result as:
```

The binary number of decimal 789 is : 1100010101

```
The octal number of decimal 789 is : 1425
The hexadecimal number of decimal 789 is : 315
```

Note: Do use the **printf()** function with a **newline** character **(\n)** at the end.

Source Code:

oche.c

```
#include<stdio.h>
#include<math.h>
int main()
{
   int n,s,temp,bin[100],i,j;
   printf("Enter a positive decimal number : ");
   scanf("%d",&n);
   s=2*n;
   s=s/2;
   temp=s;
   for(i=0;s>0;i++)
   {
      bin[i]=s%2;
      s=s/2;
   }
   printf("The binary number of decimal %d is : ",temp);
   for(j=i-1;j>=0;j--)
   printf("%d",bin[j]);
   printf("\n");
   printf("The octal number of decimal %d is : %o\n",n,n);
   printf("The hexadecimal number of decimal %d is : %X\n",n,n);

}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter a positive decimal number : 45
The binary number of decimal 45 is : 101101
The octal number of decimal 45 is : 55
The hexadecimal number of decimal 45 is : 2D

Test Case - 2
User Output
Enter a positive decimal number : 10
The binary number of decimal 10 is : 1010
The octal number of decimal 10 is : 12
The hexadecimal number of decimal 10 is : A

Test Case - 3
User Output
Enter a positive decimal number : 6789
The binary number of decimal 6789 is : 1101010000101
The octal number of decimal 6789 is : 15205
The hexadecimal number of decimal 6789 is : 1A85