9.CONVERT THE DECIMAL NUMBER TO BINARY,OCTAL AND HEXADECIMAL.

Aim:

To write a c program to convert the decimal number to binary,octal and hexadecimal

Algorithm:

Step 1:Start the program

Step 2:Get the decimal number.

Step 3:Convert the given decimal number into binary,octal and hexadecimal

Step 4:print the binary,octal and hexadecimal numbers

Step 5:Stop the program.

Program coding:

```c
#include <stdio.h>

#include <conio.h>

void swap(char *s1, char *s2)

{

 char temp;

 temp = *s1;

 *s1  = *s2;

 *s2  = temp;

}

void reverse(char *str, int length)

{

int start = 0;

int end = length -1;

while (start < end)

{

swap(&str[start], &str[end]);

start++;

end--;

}
```

```c
}
char* convert(int num, char str[100], int base)
{
  int i = 0;
  if (num == 0)
  {
   str[i++] = '0';
   str[i] = '\0';
   return str;
  }
while (num != 0)
{
int rem = num % base;
str[i++] = (rem > 9)? (rem-10) + 'a' : rem + '0';
num = num/base;
}
str[i] = '\0'; // Append string terminator
// Reverse the string
reverse(str, i);
return str;
}
void main()
{
 char str[100];
 int n;
 clrscr();
 printf("Enter the given decimal number : ");
 scanf("%d",&n);
 printf("The Binary value : %s\n",convert(n,str,2));
 printf("The Octal value  : %s\n",convert(n,str,8));
 printf("The Hexa value   : %s\n",convert(n,str,16));
```

```
 getch();

}
```

Output:

```
Enter the given decimal number : 96
The Binary value : 1100000
The Octal value  : 140
The Hexa value   : 60
```