binaryToOctal

Write a program that reads in a binary number, converts the binary number into the equivalent octal number (i.e. converts the number with base value 2 to base value 8) and prints the converted octal number to the screen. You do not need to check user input errors in the program.

A sample program template is given below:

```
#include <stdio.h>
#include <math.h>
int main()
{
   /* Write your code here */
   return 0;
}
```

Some test input and output sessions are given below:

(1) Test Case 1

```
Enter a binary number:
101
The equivalent octal number: 5
```

(2) Test Case 2

```
Enter a binary number:
11000
The equivalent octal number: 30
```

(3) Test Case 3

```
Enter a binary number:
100000
The equivalent octal number: 40
```

(4) Test Case 4

```
Enter a binary number:
1100000
The equivalent octal number: 140
```

```
#include <stdio.h>
#include <math.h>
int main()
{
   int bin;
   int temp = 0;
   int remainder;
   int dec = 0;

   int remdec;
   int oct = 0;
   int temp1 = 1;
   printf("Enter a binary number:\n");
   scanf("%d",&bin);

   while(bin!=0)
   {
      remainder = bin%10;
      dec = dec + remainder*pow(2,temp);
      temp++;
      bin = bin/10;
   }

   while(dec!=0)
   {
      remdec = dec%8;
      oct = oct + remdec * temp1;

      temp1 = temp1 * 10;
      dec = dec/8;
   }

   printf("The equivalent octal number:
%d\n",oct);

   return 0;
}
```