Function and Recursion

Q1- Wrp to to calculate power using recursion.

Ans1-

```
#include <stdio.h>
int power(int n1, int n2);
int main()
{
   int num, a, result;
printf("Enter num: ");
scanf("%d", &num);
printf("Enter the value of a");
//should be positive integer
scanf("%d", &a);
   result = power(num, a);
printf("%d^%d = %d", num, a, result);
   return 0;
}

int power(int num, int a)
{
   if (a != 0)
      return (num * power(num, a - 1));
   else
      return 1;
}
```

Q2- Wrpto Convert Binary to Octal.

Ans2:

```
#include <math.h>
#include <stdio.h>
int cnvt(long long binary);
int main()
{
   long long binary;
printf("Enter a binary number: ");
scanf("%lld", &binary);
printf("%lld in binary = %d in octal", binary, cnvt(binary));
   return 0;
}

int cnvt(long long binary)
{
   int octal = 0, decimal = 0, i = 0;
   while (binary != 0)
{
      decimal += (binary % 10) * power(2, i); // converting to decimal
      ++i;
      binary /= 10;
   }
i = 1;
   while (decimal != 0)
 {
```

```
        octal += (decimal % 8) * i;
        decimal /= 8;
i *= 10;
    }
    return octal;
}
```

Q3- Wrp to reverse the given sentence.

Ans3-

```
#include <stdio.h>
void revSen();
int main()
{
printf("Enter a sentence: ");
revSen();
    return 0;
}

void revSen()
{
    char a;
scanf("%c", &a);
    if (a != '\n')
 {
revSen();
printf("%c", a);
```

```
    }
}
```