

Q1. Given an integer n, count and return the number of zeros that are present in the given integer using recursion.

```
int countZeros(int n){  
    //finish this function  
}  
  
int main(){  
  
    int n;  
  
    cin>>n;  
  
    cout<<countZeros(n);  
  
}
```

Q2. Given k, find the geometric sum i.e.

$$1 + 1/2 + 1/4 + 1/8 + \dots + 1/(2^k)$$

using recursion. Return the answer.

Sample Input :

3

Sample Output :

1.875

```
double geometricSum(int k) {  
    // Write your code here  
}  
  
int main(){  
  
    int k;  
  
    cin>>k;  
  
    cout<<geometricSum(k);  
  
}
```

Q3. Write a recursive function that returns the sum of the digits of a given integer.

```
int sumOfDigits(int n) {  
    // Write your code here  
}  
  
int main(){  
    int k;  
    cin>>k;  
    cout<< sumOfDigits (k);  
}
```

Q4. Given two integers m & n, calculate and return their multiplication using recursion. You can only use subtraction and addition for your calculation. No other operators are allowed.

```
int multiplyNumbers(int m, int n) {  
    // Write your code here  
}  
  
int main(){  
    int m,n;  
    cin>>m;  
    cin>>n;  
    cout<< multiplyNumbers (m,n);  
}
```