Name:
Worksheet#03 - Solution
CSC 211 - Spring 2019

1. Without using any math function, write a program that will read an integer x from the user and print out to the standard output of the value:

$$\sum_{i=0}^{z} \frac{1}{2^i} = \quad \frac{1}{2^0} + \frac{1}{2^1} + \ldots + \frac{1}{2^n}$$

```
#include <iostream>
using namespace std;

//Takes in x and y and returns x^y
int exp(int x, int y){

    int result = 1;

    for(int i = 0; i < y; ++i){
        result *= x;
    }
    return result;
}

int main(){

    int z;
    float sum;
    sum = 0;
    cin >> z;

    for(int i = 0; i <= z; i++){

        sum += (float) 1 / (float) exp(2,i);

    }

    cout << sum << endl;
    return 0;
}
```