

# Assignment 1

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Download all Codes from

[https://github.com/saivarsha17/EE4013-C\\_DS/blob/main/Assignment1/Codes/CS19\\_Q52.c](https://github.com/saivarsha17/EE4013-C_DS/blob/main/Assignment1/Codes/CS19_Q52.c)

[https://github.com/saivarsha17/EE4013-C\\_DS/blob/main/Assignment1/Assignment-1.tex](https://github.com/saivarsha17/EE4013-C_DS/blob/main/Assignment1/Assignment-1.tex)

## 1 PROBLEM

Consider the following C Program.

```
#include <stdio.h>
int main() {
    float sum=0.0,j=1.0,i=2.0;
    while(i/j>0.0625){
        j=j+j;
        sum=sum+i/j;
        printf("%f\n",sum);
    }
    return 0;
}
```

How many times variable sum is printed?

## 2 SOLUTION

**Answer** :sum variable prints 5 times.

**Explanation:**

**1st Iteration:**  $i=2.0, j=1.0$  . So,  $i/j=2 > 0.0625$

Prints sum and j becomes 2.0

**2nd Iteration** :  $i=2.0, j=2.0$  .So, $i/j=1 > 0.0625$

Prints sum and j becomes 4.0

**3rd Iteration** :  $i=2.0, j=4.0$  .So, $i/j=0.5 > 0.0625$

Prints sum and j becomes 8.0

**4th iteration** :  $i=2.0, j=8.0$  . So, $i/j=0.25 > 0.0625$

Prints sum and j becomes 16.0

**5th iteration** :  $i=2.0, j=16.0$  .So, $i/j=0.125 > 0.0625$

Prints sum and j becomes 32.0

Now , $i=2.0$  and  $j=32.0$  and  $i/j=0.0625$  . So ,it exits from while loop and sum variable prints for 5 times