

Andrew Nady
900184042

Question 28:

- $\log_2 2 = 1$
- $\log_2 4 = 2$
- $\log_2 8 = 3$
- So if $N = 2$ then the result will be 1, that is why I used the divide and conquer as I divide the n every time and I make the base case the if $n < 2$ return 0
- Adding 1, every time it divides the n to $n/2$

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

int log_2(double n) {
    if (n < 2)
        return 0;
    return 1 + log_2(n / 2);
}

int main()
{
    cout << log_2(16);

    return 0;
}
```