Assignment Question

1) What is the time complexity of the following code?

```
int a = 0;

for (int i = 0; i < n; i++)
{
    for (int j = n; j > i; j--)
    {
        a = a + i + j;
    }
}
```

Ans.)   Big O(n^2)

2) What is the time complexity of the following code?

```
int count = 0;

for (int i = 1; i <= n; i = i * 2)
    {
    for (int j = 1; j <= i; j ++)
        {
        count = count + 1;
            }
        }
```

Ans.)   Big O(log(log(n)))

3) Find the best case, average case and the worst case of Linear Search Algorithm.

Ans.)   If list is reverse.

Worst case - Big O(n)

If list is half sorted.

Average case – Big O(n)

If list is already sorted.

Best case – Big O(1)