Complexities Practise

1.

```
int a = 0, b = 0;
for (i = 0; i < N; i++) {
        a = a + rand();
}
for (j = 0; j < M; j++) {
        b = b + rand();
}
```

O(N+M)

2.

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

O(N^2)

3.

```
int i, j, k = 0;
for (i = n / 2; i <= n; i++) {
        for (j = 2; j <= n; j = j * 2) {
                k = k + n / 2;
        }
}
```

O(NlogN)

4.

```
int a = 0, i = N;
while (i > 0) {
        a += i;
        i /= 2;
}
```

O(logN)

5.

```
for(var i=0;i<n;i++)
        i*=k
```

O(logN)

6.

```
var value = 0;
for(var i=0;i<n;i++)
        for(var j=0;j<i;j++)
           value += 1;
```

O(n^2)