

Comment on the time complexities of below programs .

Q1. What is the time complexity of the following code :

```
a = 0, i = N
```

```
while i > 0:
```

```
    a += i
```

```
    i /= 2
```

Q2 What is the time complexity of the following code

```
i = n / 2
```

```
while i < n:
```

```
    j = 2
```

```
    while j < n:
```

```
        j *= 2
```

Q3.

```
count = 0;
```

```
i = N
```

```
while i > 0:
```

```
    While j < i:
```

```
        count+=1
```

```
    i /= 2
```