

**JAVA T&C**

**Assignment Questions**

# Assignment Questions

**Q1. Calculate the time complexity for the following code snippet.**

```
int c = 0;
for(int i = n; i > 0; i /= 2) {
    c++;
}
```

**Q2. Calculate the time complexity for the following code snippet.**

```
int c = 0;
for(int i = n; i > 1; i /= i) {
    c++;
}
```

**Q3. Calculate the time complexity for the following code snippet where k is some constant ( $k \ll n$ ).**

```
int c = 0;
for(int i = 0; i < n; i += k) {
    c++;
}
```

**Q4. Calculate the time complexity for the following code snippet.**

```
int c = 0;
for(int i = 1; i < n; i *= 2) {
    c++;
}
```

**Q5. Calculate the time complexity for the following code snippet. Here k is some constant value less than n which is not equal to 1.**

```
int c = 0;
for(int i = 0; i < n; i++) {
    i*=k;
}
```

**Q6. Calculate the time complexity for the following code snippet.**

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```
int c = 0;
for(int i = 0; i < n; i++) {
    c +=i;
}
```

**Q7. Calculate the time complexity for the following code snippet.**

```
int c = 0;
for(int i = 0; i < n; i++) {
    for(int j = 0; j < i; j++){
        c++;
    }
}
```

**Q8. Calculate the time complexity for the following code snippet.**

```
for(int i = 0; i < n; i++) {
    for(int j = 0; j * j < n; j++) {
        System.out.print("PhysicsWallah ");
    }
}
```

**Q9. Calculate the time complexity for the following code snippet.**

```
int c = 0;
for(int i = 0; i < n; i++) {
    for(int j = 1; j < n; j *= 2) {
        c++;
    }
}
```

**Q10. Calculate the time complexity for the following code snippet.**

```
int c = 0;
for(int i = 0; i < n; i++) {
    for(int j = 1; j * j < n; j *= 2) {
        c++;
    }
}
```

# Assignment Questions

**Q11.** Calculate the time complexity for the following code snippet.

```
int c = 0;
for(int i = n; i > 0; i /= 2) {
    for(int j = 0; j < i; j++) {
        c++;
    }
}
```

**Q12.** Calculate the time complexity for the following code snippet.

```
int c = 0;
for(int i = 1; i < n; i*=2) {
    for(int j = n; j > i; j--) {
        c++;
    }
}
```

**THANK  
YOU !**