

Assignment:- Time and Space Complexity 2

- 1) Calculate the time complexity for the following code snippet.

```
for(int i = 0; i < n; i++) {  
    for(int j = 0; j * j < n; j++) {  
        cout << "PhysicsWallah ";  
    }  
}
```

- 2) 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++;  
    }  
}
```

- 3) 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++;  
    }  
}
```

- 4) 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++;  
    }  
}
```

- 5) 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++;  
    }  
}
```