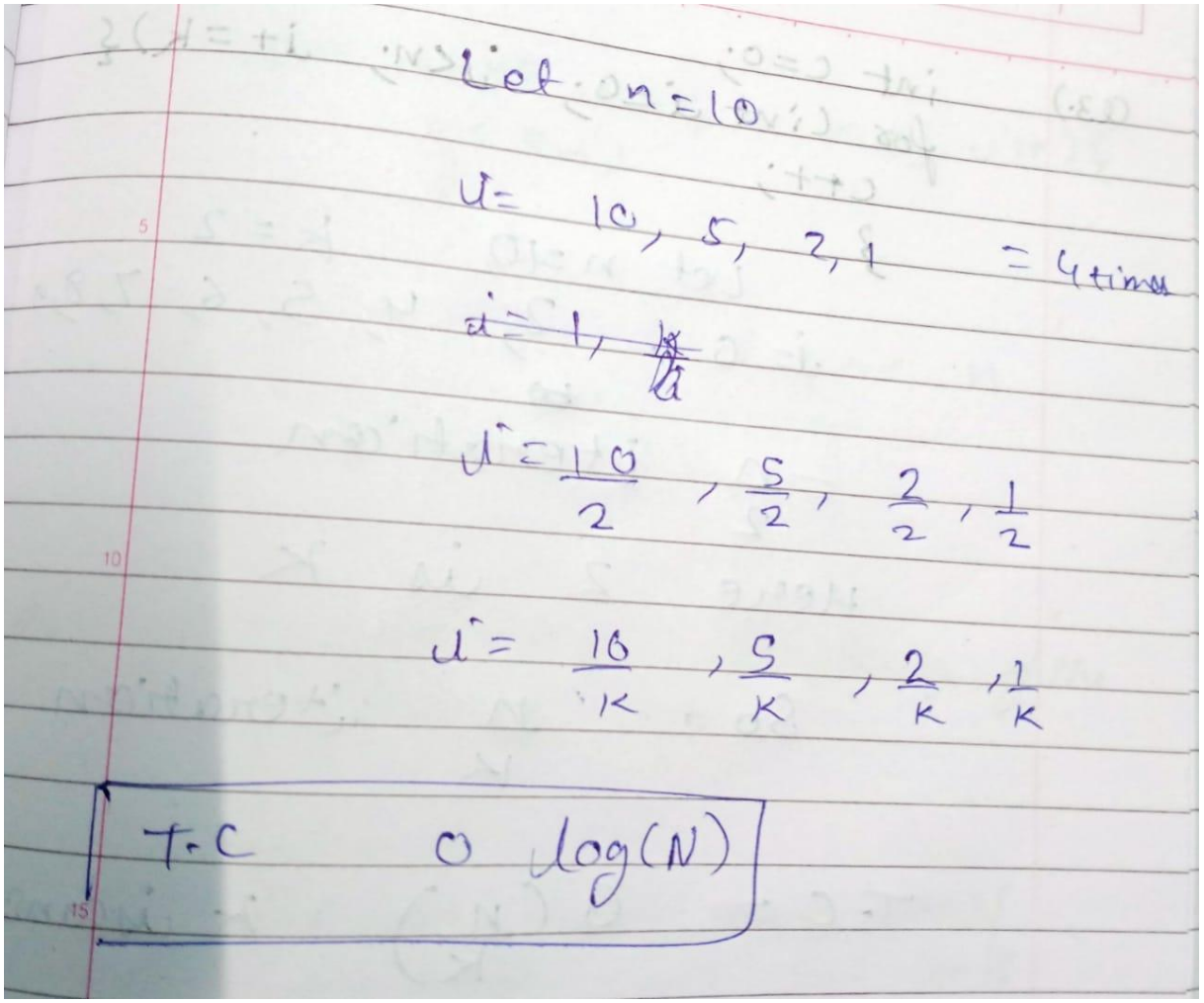
C++ Assignments | Time and space complexity Analysis - 1 | Week 8

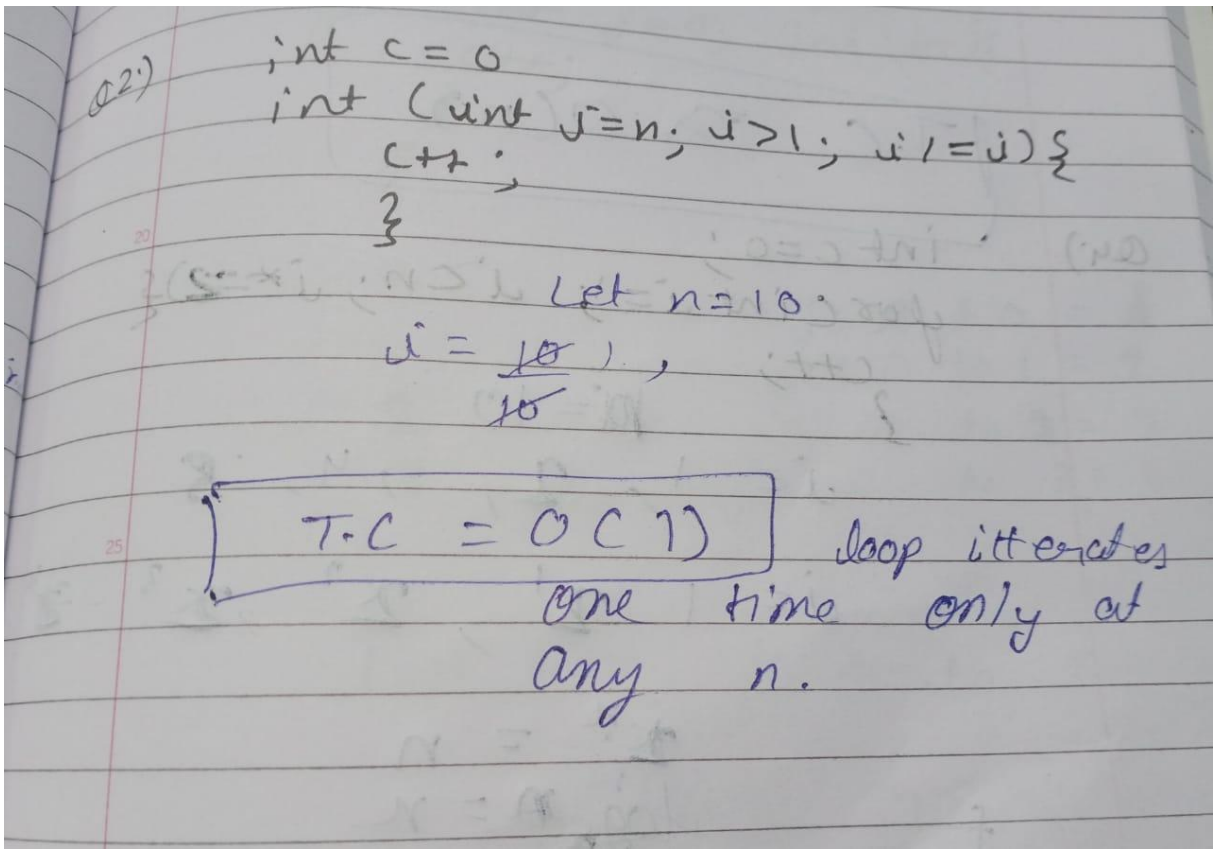
1. Calculate the time complexity for the following code snippet.

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



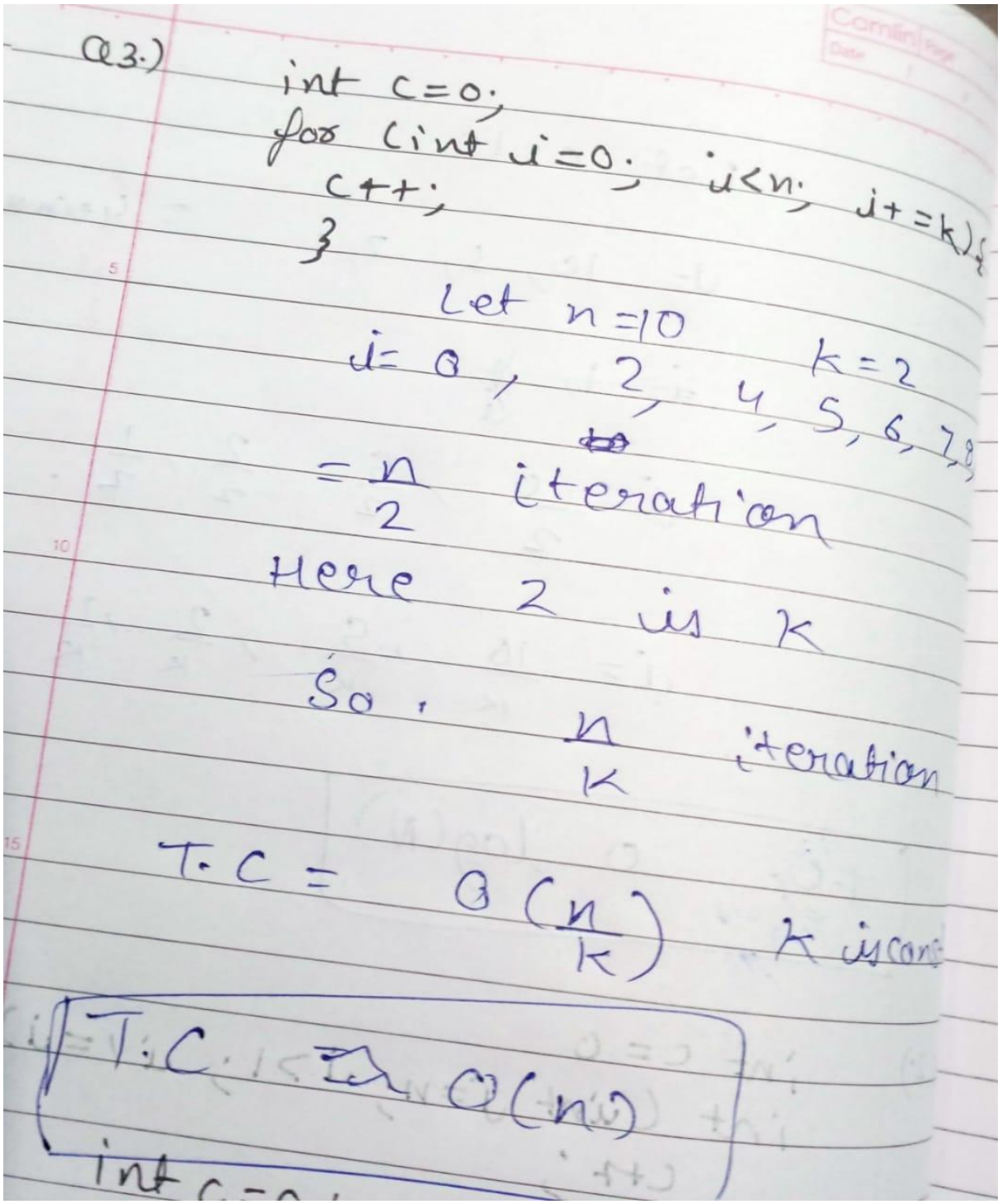
2. Calculate the time complexity for the following code snippet.

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



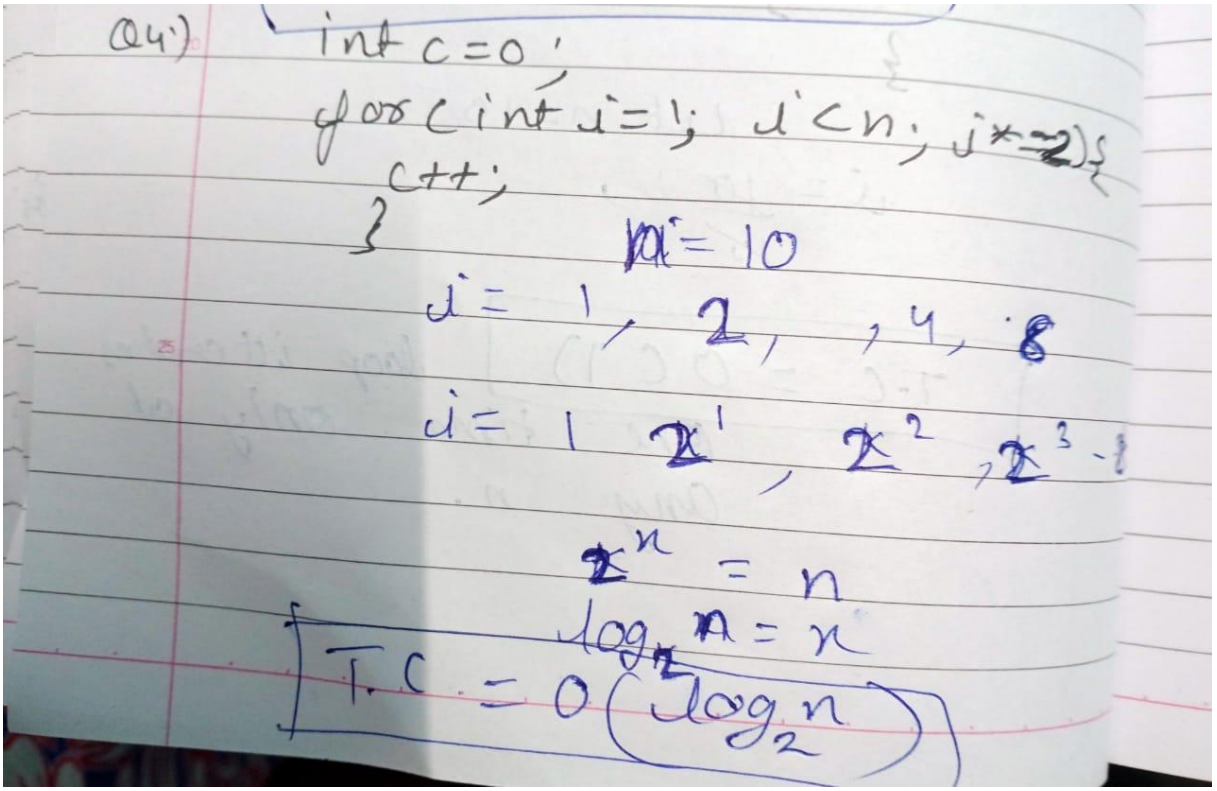
3. Calculate the time complexity for the following code snippet where k is some constant (k<<n).

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



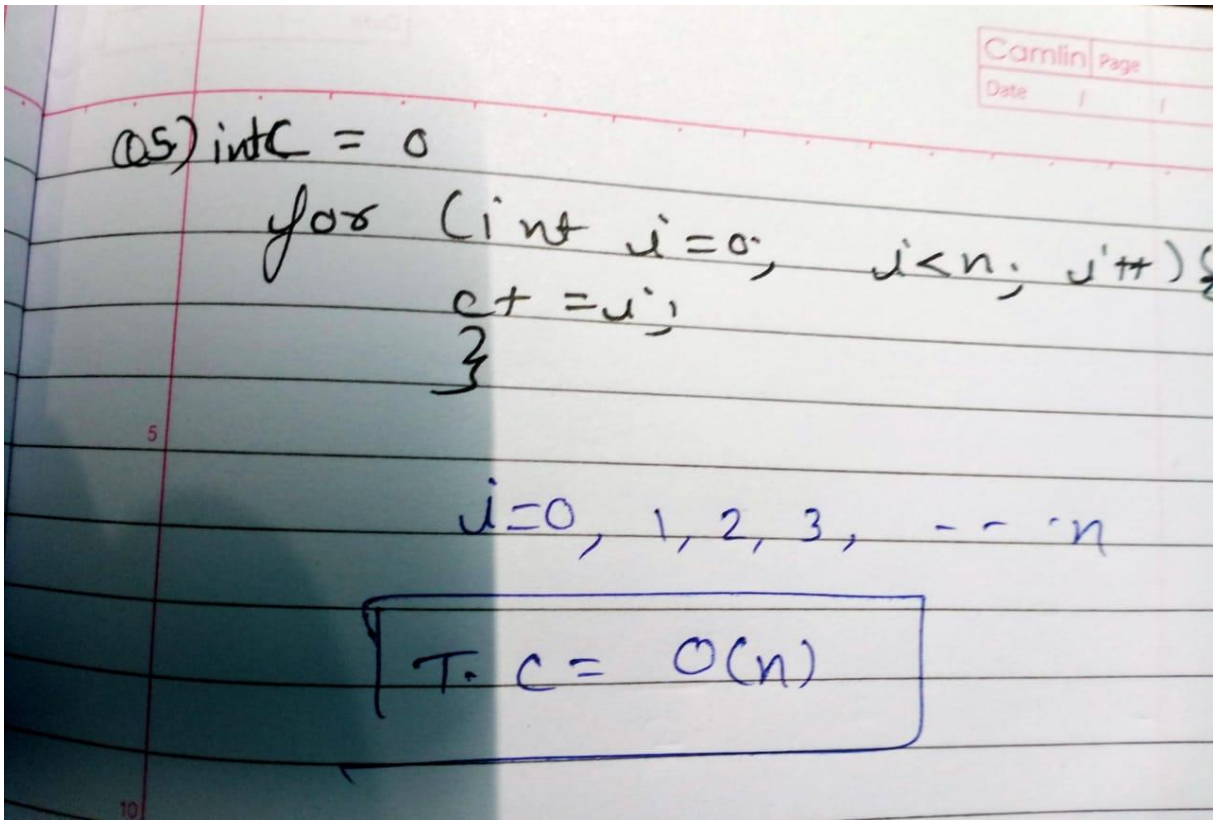
4. Calculate the time complexity for the following code snippet.

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



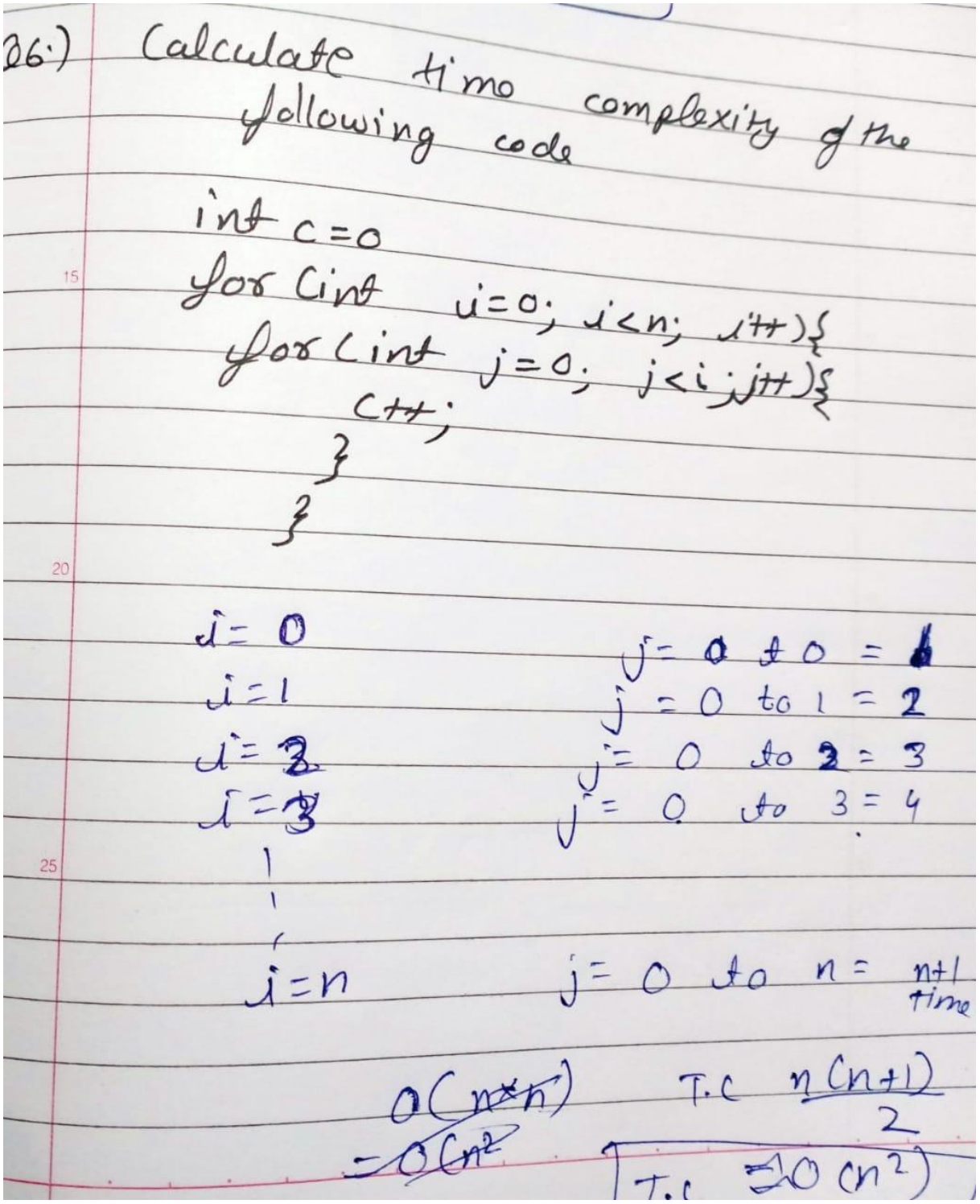
5. Calculate the time complexity for the following code snippet.

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



6. 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++;
 }
}
```



Note:- Please try to invest time doing the assignments which are necessary to build a strong foundation. Do not directly Copy Paste using Google or ChatGPT. Please use your brain 😀.