Functions

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Agenda

➢ Objects & Classes (in short)
➢ Functions or methods
   ○ Without arguments
   ○ With arguments
   ○ Overloading
➢ Time complexity
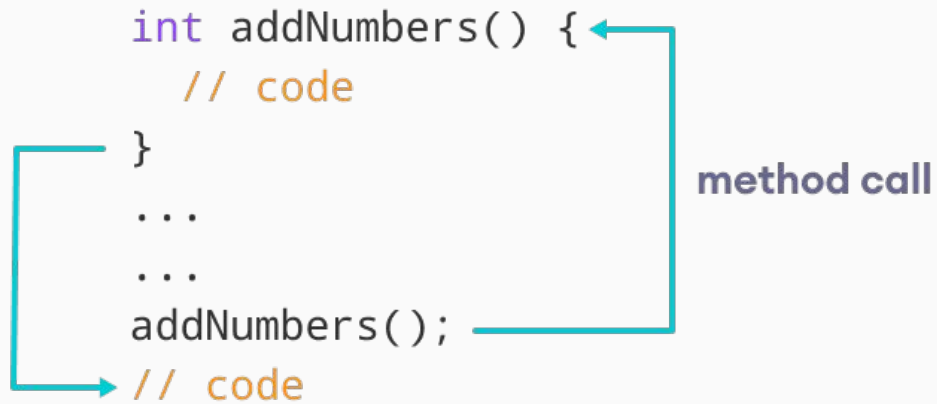   ○ Runtime of program
   ○ Asymptotic notation

Objects & Class

- Object can be any entity, which has its own state or behaviour
- Class is blueprint of object or prototype of object
- **new** keyword
- className object = new className();

Methods or Functions

- Set of code gets executed only when particular function is called
- Methods are written to perform certain set of tasks
- putBreak in cycle
- changeGear in cycle
1. Simple functions (void, print)
2. With arguments
3. Return type

Methods or Functions

```
int addNumbers() {
    // code
}
...
...
addNumbers();
// code
```

method call

Method overloading

- More than once method having same name, but their parameters or return type is different

```
int myMethod(int x)
float myMethod(float x)
double myMethod(double x, double y)
```
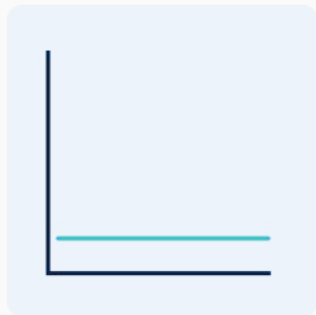
Time Complexity

- Which code is better?

- Every line costs one rupee
- Assignment statement = 1
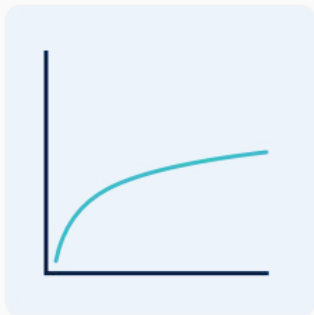
Asymptotic Notations

- Defined run time and space of the program
- Big-O - O(n) - worst case
- Omega-Ω - Ω(n) - best case
- Theta-Θ - Θ(n) - medium case

Asymptotic Notations
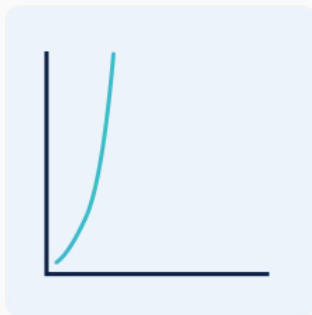
Questions

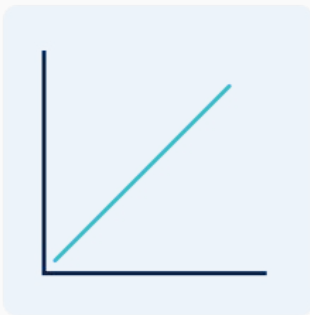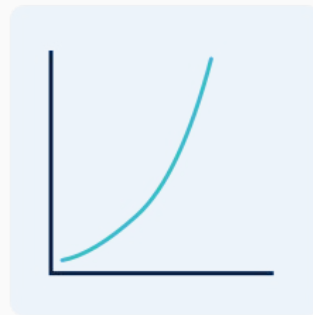All the best for Assignments