



Introduction to Loops

In this lesson, you will be introduced to the functionality of loops.

We'll cover the following



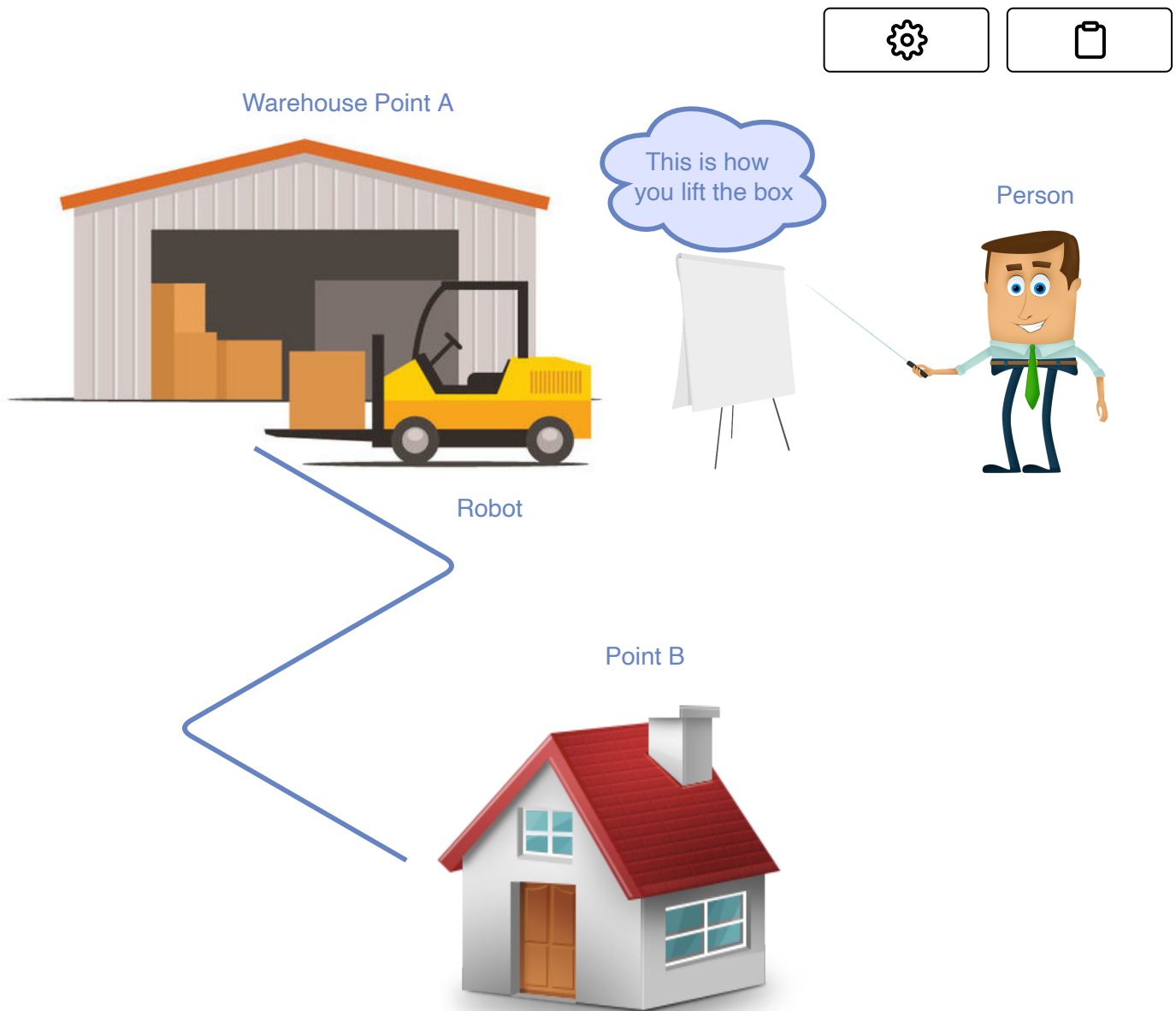
- Introduction
 - Example
 - Advantages of using loops
 - Types of loops

Introduction#

Suppose we have 1000 boxes in a warehouse. We want a robot to move all boxes from one point to another. The robot is pretty dumb, so we must teach it how to move one box in great detail. We will provide the robot with the following instructions:

1. Go to point A.
2. Lift the box and load it.
3. Move to point B.
4. Unload the box here.

Then, we will ask it to repeat the same steps for the rest of the boxes until there are no more boxes at point A.



Loops work in a similar fashion. We teach something to the computer, and then we instruct it to repeat the same procedure until the specified condition is fulfilled.

*In computer language, **loops** allow you to repeat a particular block of code until the specified condition is met.*

Example#



Suppose we have to write a program to print the first five whole numbers.
It's pretty easy!

Use five `cout` statements, and we are done with the task.

```
1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      int number = 0;
7      cout << number++ << endl;
8      cout << number++ << endl;
9      cout << number++ << endl;
10     cout << number++ << endl;
11     cout << number++ << endl;
12     return 0;
13 }
```



But what if we have to print the first thousand whole numbers? Using the same approach that we used above will be time-consuming and hectic. Instead, we will use loops.

Advantages of using loops#

We use loops to:

- Execute a particular piece of code multiple times
- Avoid duplication in our code

- Make the code more readable



- Save our time



- Create an efficient and manageable program
- Make programming fun!

Types of loops#

In C++, we have:

- while loop
- do-while loop
- for loop
- Nested loops
- Infinite loops

Quiz



Q We use loops to avoid repetition in our code.

Your Answer



A) True



B) False

Submit Answer

Reset Quiz ↻



Let's explore each of these loops in upcoming lessons.

Stay tuned!

← Back

Next →

Quiz

while Loop in C++



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