



Programming

# Programming Merit Badge

# TOOLS

To complete the C++ program you will need:

- A “Text” editor
  - Recommended: VS Code
    - <https://code.visualstudio.com>
- A C/C++ compiler
  - Windows:
    - Visual Studio
      - <https://visualstudio.microsoft.com>
    - GCC (MingW)
      - <http://www.mingw.org>

# TOOLS

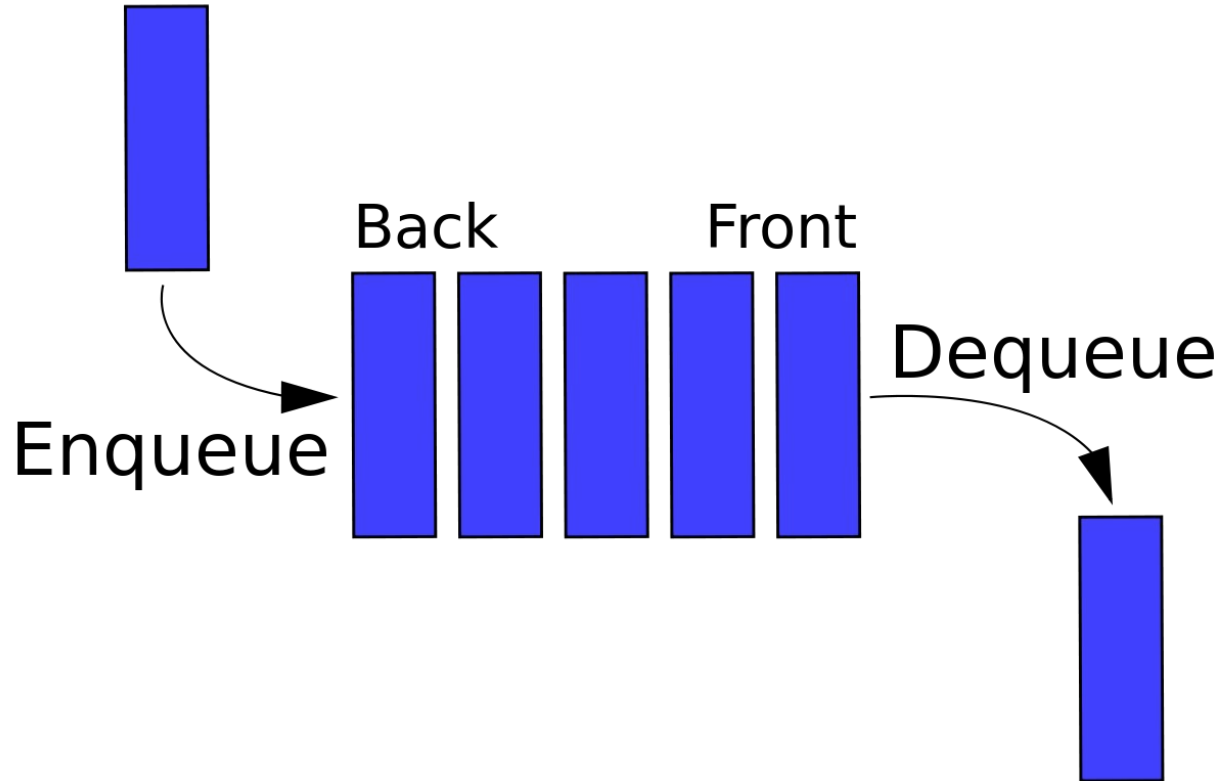
Sample programs and homework problem:

<https://github.com/johneegeek/pmb>

# Data Structure: QUEUES



# Data Structure: QUEUES



# Data Structure: QUEUES

**FIFO** – an acronym for first in, first out – in computing and in systems theory, is a method for organising the manipulation of a data structure – often, specifically a data buffer – where the oldest (first) entry, or 'head' of the queue, is processed first.

# Language #2: Java

To complete the Java program you will need:

- A “Text” editor (We’ll use the same one we used before)
  - Recommended: VS Code
    - <https://code.visualstudio.com>
- A JAVA “Development Environment”
  - Java JDK:
    - <https://www.oracle.com/sg/java/technologies/javase-downloads.html>

# Java - Hello World

```
/**
 * My hello world in Java
 */

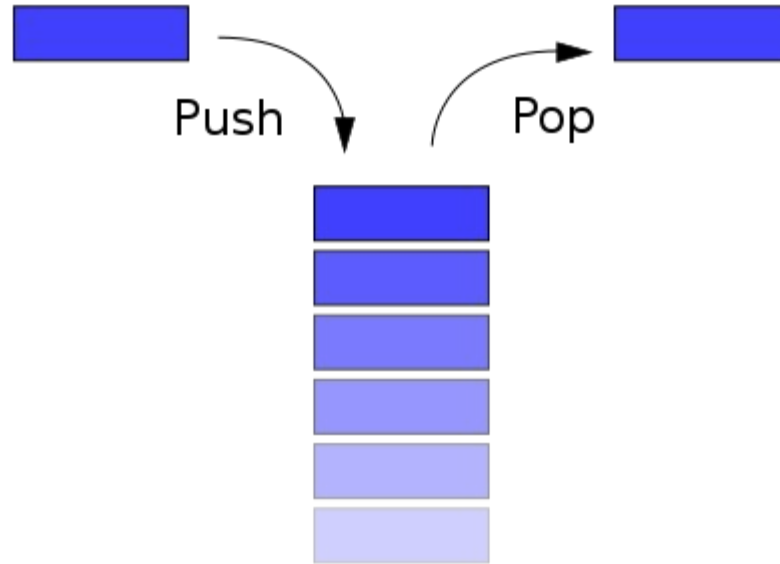
// Class definition: The name of your main 'class' needs
// to match the name of your file.
public class hello
{
    public static void main(final String[] args)
    {
        System.out.println("Hello World");
    }
}
```



# Data Structure: STACK



# Data Structure: STACK



# Data Structure: STACK

**LIFO** – an acronym for last in, first out – in computing and in systems theory, is a method for organising the manipulation of a data structure – often, specifically a data buffer – where the last entry, or top of the stack, is processed first.