

**Gebze Technical University  
Computer Engineering**

**CSE 222 - 2018 Spring**

**HOMEWORK 3(1) REPORT**

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Course Assistant:

# 1. INTRODUCTION

## 1.1. Problem Definition

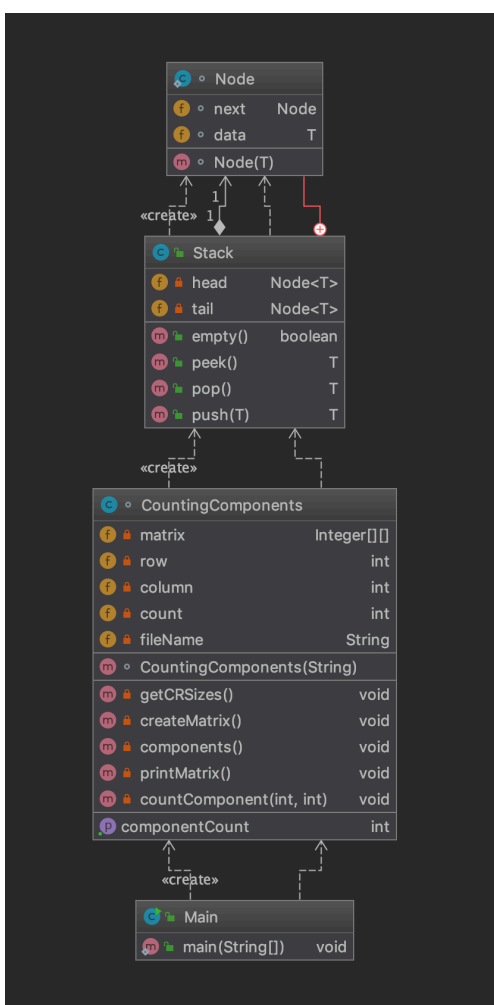
Main problem is the finding neighbors with value 1 if neighbor has a value 1 then they are one piece of a bigger pattern which is a component.

## 1.2. System Requirements

Program can work on every operating system which have a java. Program can work on smartphones if smartphone can execute java.

# 2. METHOD

## 2.1. Class Diagrams



## 2.2. Use Case Diagrams

Compile the project and run with command like that “java Main <filePath>” and see the component number.

## 2.3. Problem Solution Approach

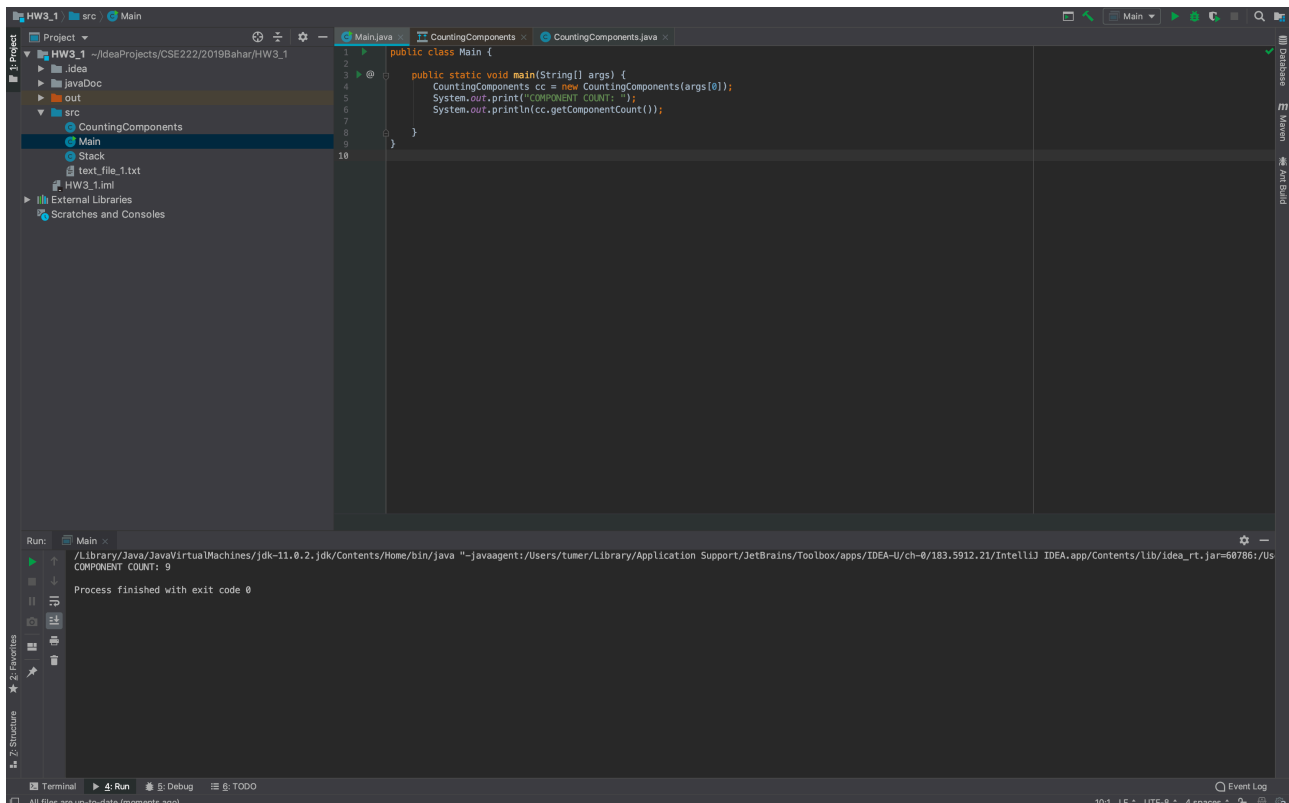
Zeros and ones parsed as matrix(2d Array) and when traversing that matrix when we see a value 1, started counting component. If it has a neighbor as 1 then component expanding and all neighbors added to stack and that process repeated until there is no element in the stack.

## 3. RESULT

### 3.1. Test Cases

Tested with sample file.

### 3.2. Running Results



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