

# COSC1284

## Programming Techniques

### Rodney Cocker

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What's next...



# Outline



- Announcements
- Assignment Specification
- Feedback: Your questions answered
- Code Examples

# Teaching Staff



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# Teaching Staff



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# Announcements & Discussions

# Announcements



## Consultation Times

- There will be time allowed in your class for you to ask for help
- You can contact me to arrange a time for help outside of your class.
- You can contact Justin to arrange a time for help outside of your class.

## Mentoring Sessions

- To be announced

# Questions Answered



## Assignment Specification Clarification

- Due end of week 5
- First submission by the end of this week.
- Degrees Kelvin – we will only be testing with valid values.  
You do not have to do any range checking.
- Please use the range 1 – 24 for the lotto program instead of 1 - 48
- Driver file + A1 file, Readme.
- You are not permitted to use ArrayLists or any other data structures (that includes arrays).
- The first assignment must be completed without the use of arrays/loops
- You must write the best code you can without making use of these constructs.



# Questions Answered



## Visual Studio Code

- JDK8 & JDK11+ (Visual Studio)
- Primary concern here is that you are not using Streams, ArrayLists e.t.c.

## Connecting two files

```
public class Driver
{
    public static void main(String[] args)
    {
        new A1().run();
    }
}
```

```
public class A1
{
    public void run()
    {
        . . .
    }
}
```

# Questions Answered



## Visual Studio Code

- Always open a folder that contains your java files
- Don't just open each file individually



# Chapter 1 & 2

# Programming, Variables & Operators



Chapter 1 – Program performs calculations and/or completes logical steps to solve a problem.

- A1 – Calculation (Unit Conversion)
- A1 - Logical Steps (Lotto)

Input – Get information from the user

Output – Display a result

Math - Convert values

Decisions - Search for matches between input and generated numbers

Repetition - Generate random numbers

# Introduction to Programming



- Classes
- Methods
- Statements
- Braces i.e. { and }
- Comments
- Printing (to the console)
- Case sensitivity
- Compilation
- Interpreters
- Source code
- javac
- java
- New line characters
- Code readability
- Escape sequences
- Multiple ways to solve the same problem
- Algorithms (Fast vs Efficient)
- Debugging
- Learning from error messages

# Variables & Operators



- What is the difference between a variable and an operator?
- What does it mean to declare a variable?
- What does it mean to assign a value to a variable?
- What is camel case?
- Memory diagrams
- Arithmetic operators
- Sometimes programs produce results that don't make sense.
- Why is this answer: 0;
- `System.out.println(minute / 60);`
- The + operator has two jobs
- Automatic casting
  - `1 + 2.5`
  - `1 + 2 + "Hello"`
  - `"Hello" + 1 + 2`
  - `"Hello" + (1 + 2)`
- Read your error messages