

Please fill out the survey so I can tell how fast to go over the content! (link in the emails) (+attendance)

Week 2!

H15A 24T2



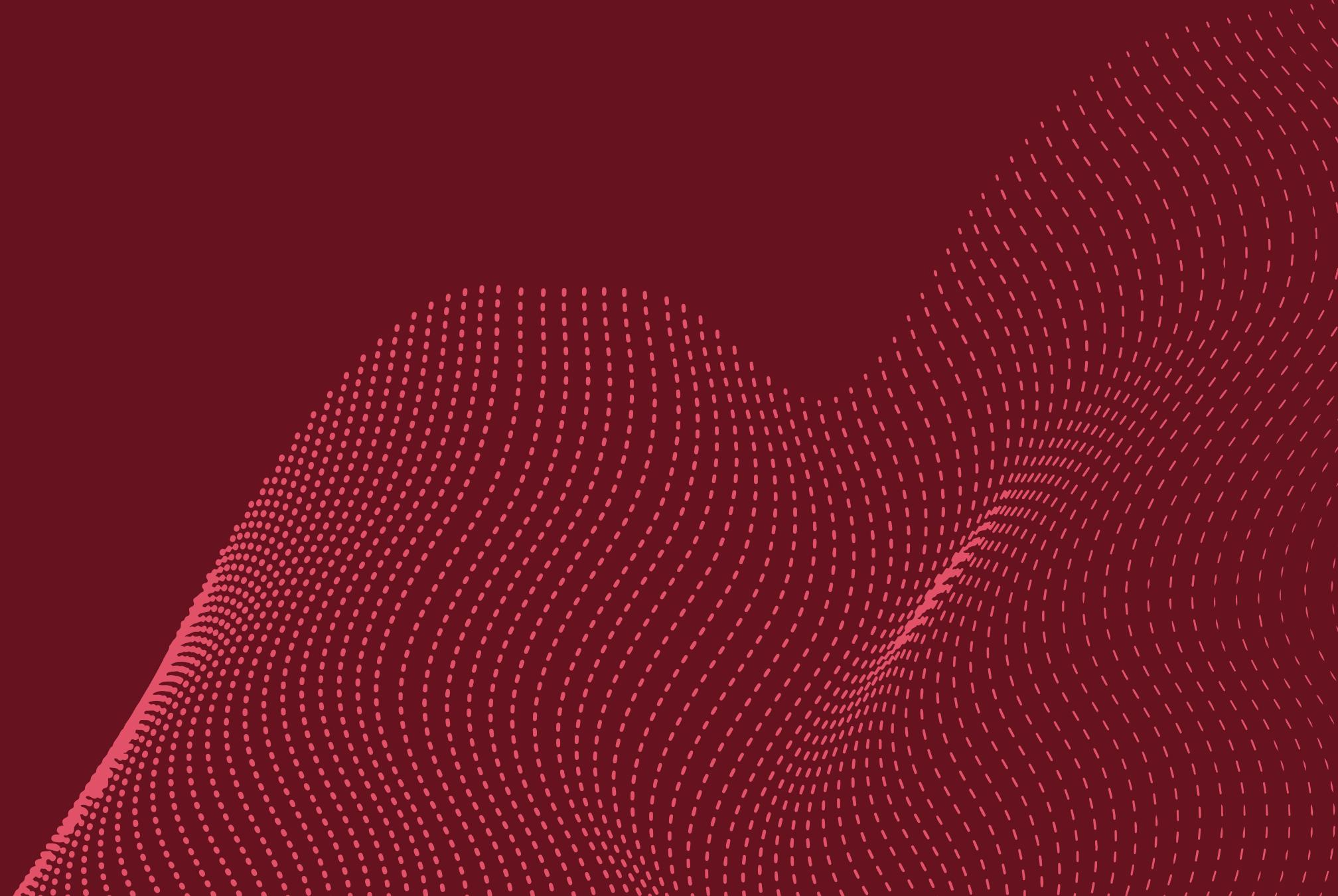
Overview

Variables & Constants

Calculating Values in Programs

Diagramming

Practical Programming Exercise



Variables

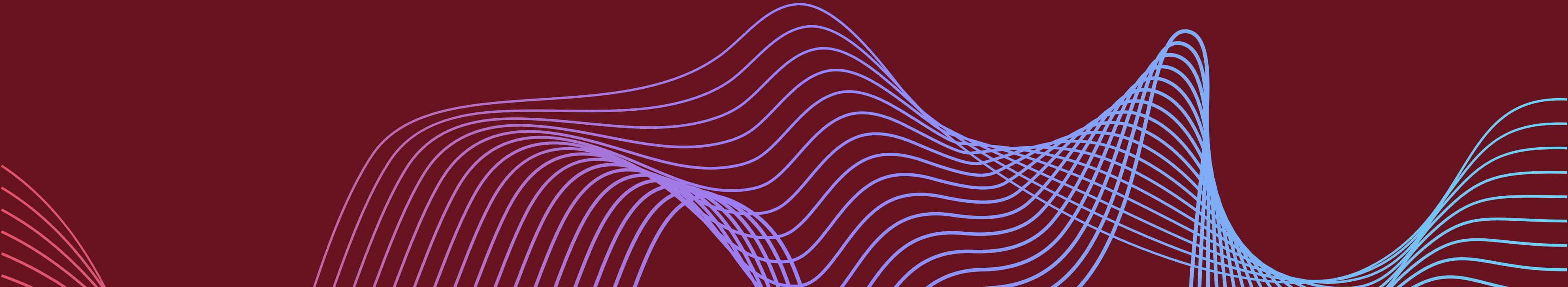
What data types have we seen so far? int char double

How do we declare a variable? data_type variable_name;

How do we initialise variables? variable_name = value;

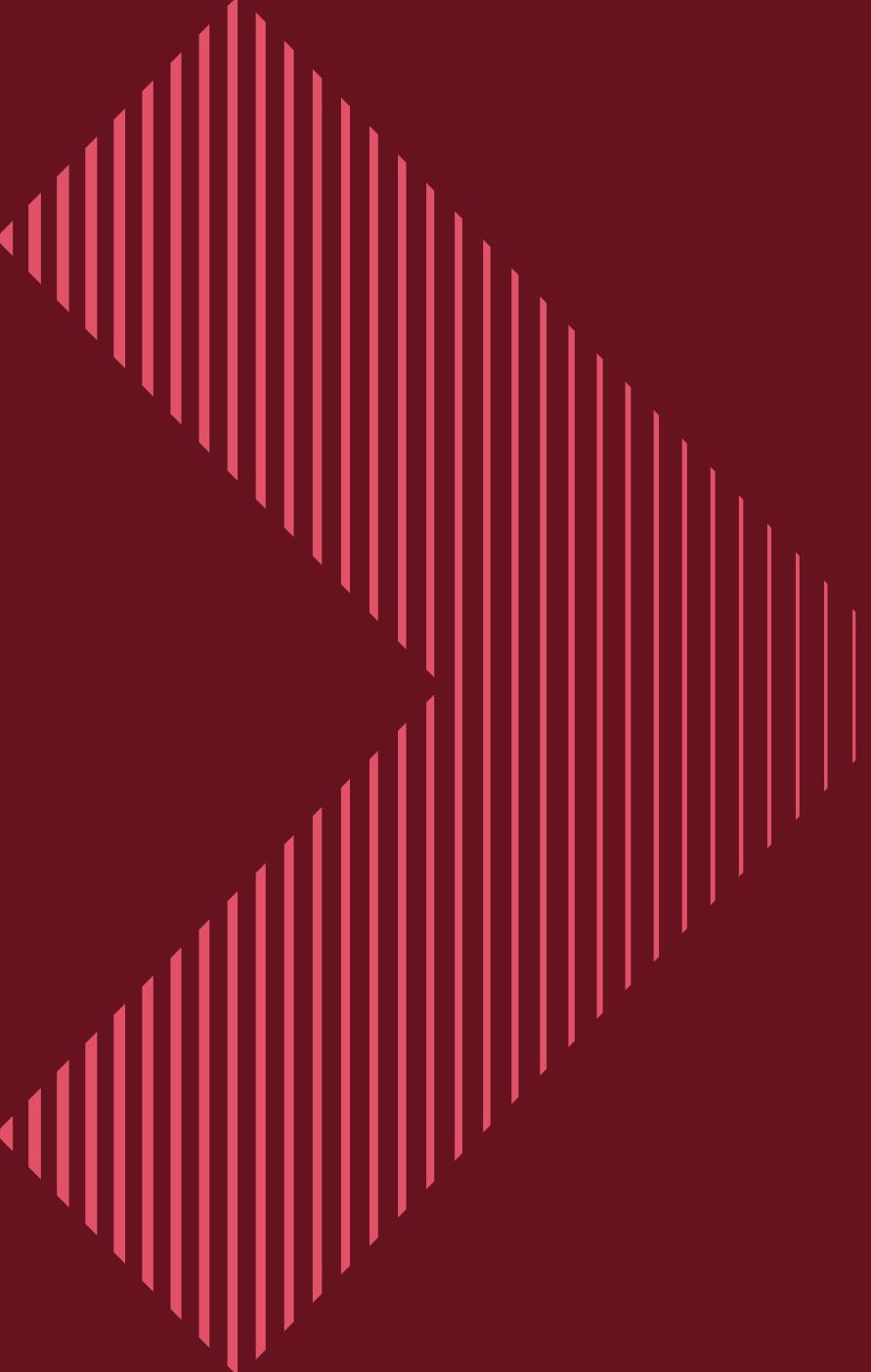
How do we print the value of variables? using printf(...); from <stdio.h>

see tut code for a full solution



Constants

See tut code for
a full solution!



Calculating Values in Problems

In your groups: Write down as many operators of your allocated type as you can

Group 1: Arithmetic

Group 2: Logic

Group 3: Comparison

Operators

Arithmetic

+ - * / %

Logic

&& || !

Comparison

< > <= >= != ==

Operators

Arithmetic + - * / % ++ -- += -= *= /= %=

Logic && || !

Comparison < > <= >= != ==

Operators

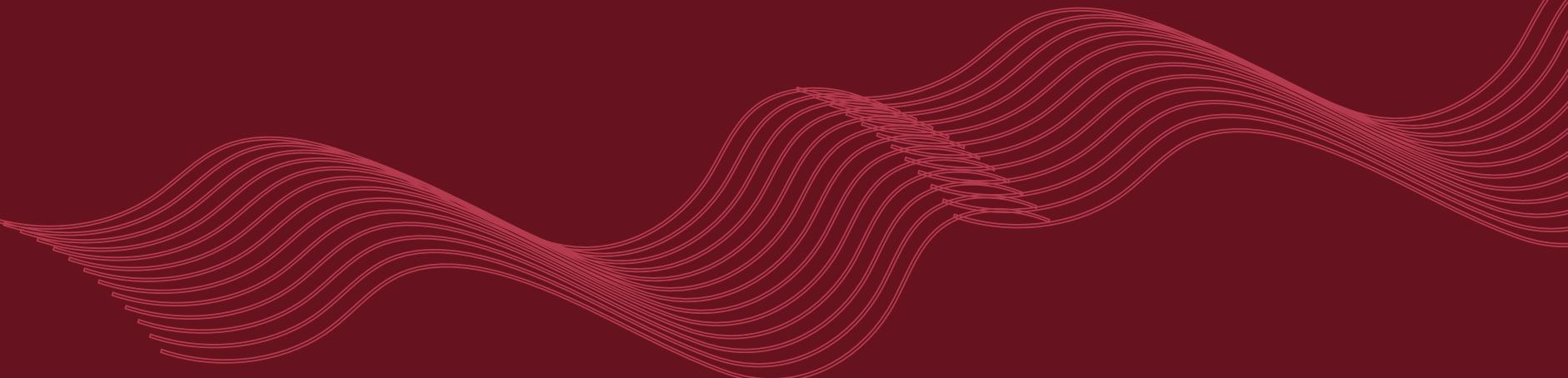
Arithmetic + - * / % ++ -- += -= *= /= %=

Logic && || !

Comparison < > <= >= != ==

Bitwise & | ^ << >> ~

Ternary
expressions cond ? if_true : if_false



Weird Data Types and Arithmetic

**What types of storage have
we seen so far?**

double

int

char

Reminder

integer / integer == integer

char + integer == char

Exercise

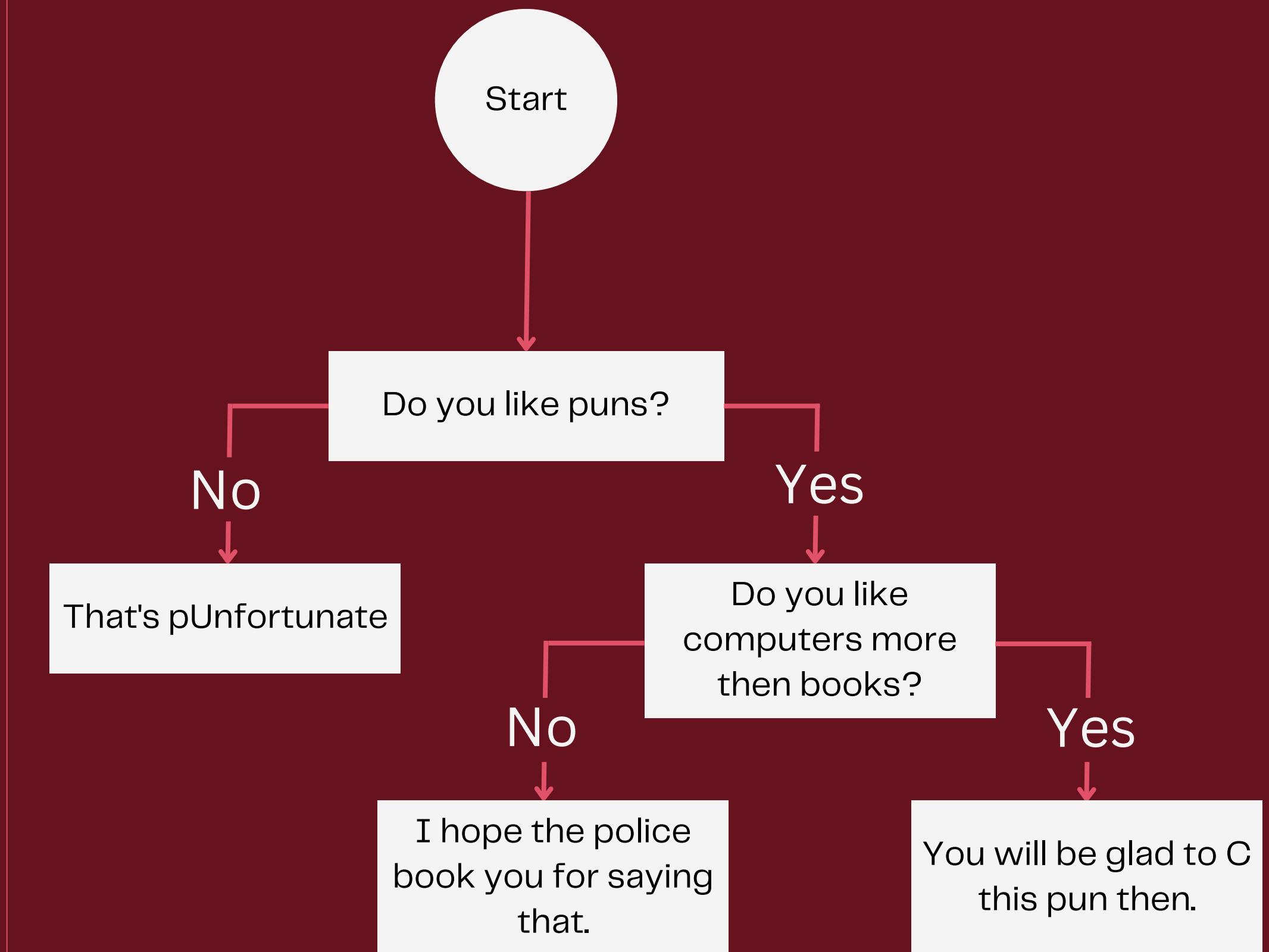
Group 1: $(7 / 2)$

Group 2: $(3.0 / 2) + 1$

Group 3: $'a' + 5$

Group 4: $'F' - 'A' + 'a'$

Diagramming!

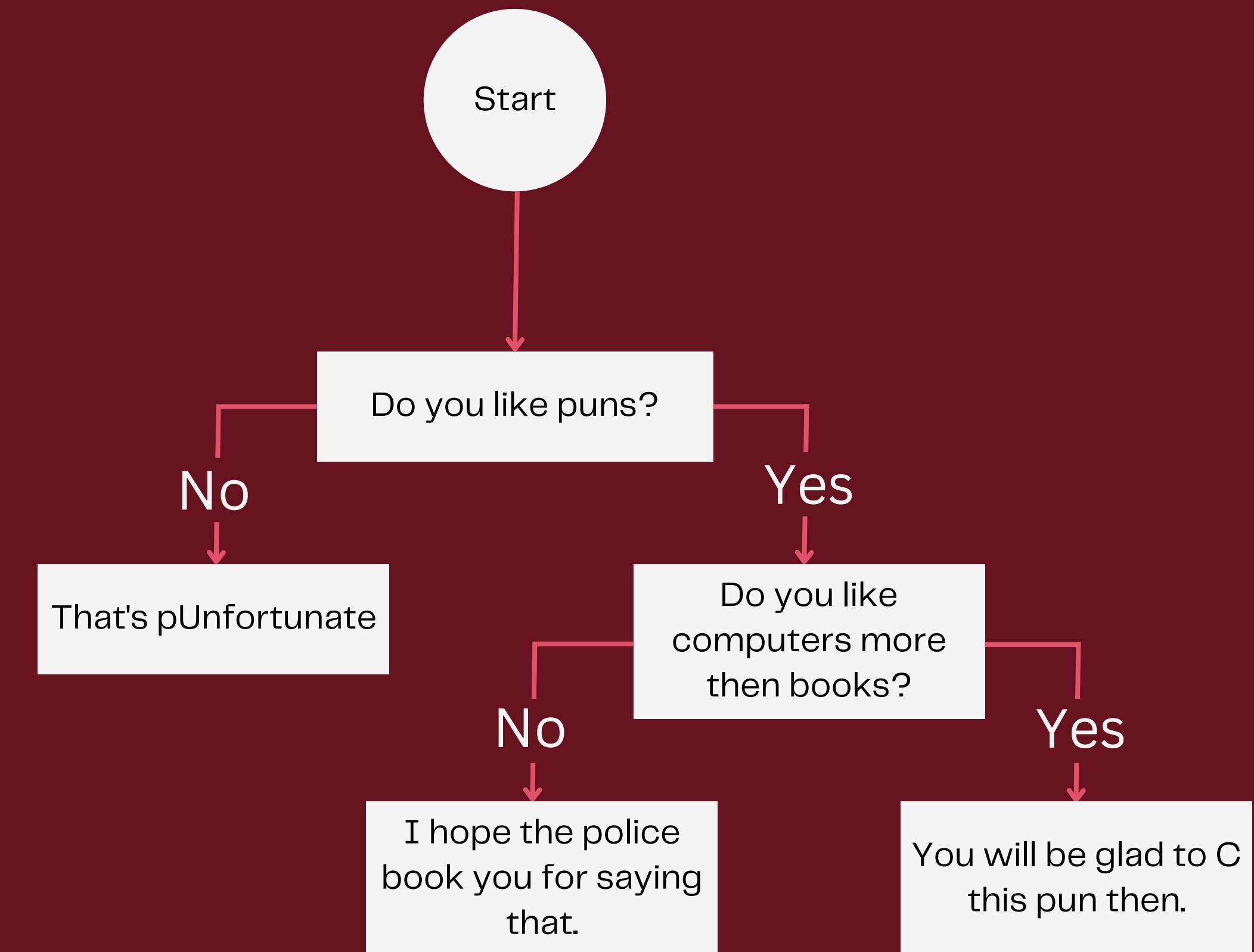


Parts of the flow chart

Circle - Start of the diagram

Boxes - Question/decision

Arrows - Answer to the previous question, directs you to the next question or result



Practical Programming Exercise

The program should:

1. Scan in the users height.
2. If the height is 0 or less, it should print an error message,
3. If the height is below the minimum height, it should print a message telling the user they are not tall enough to ride,
4. If the hight is above the minimum but below the ride alone threshold, it should print a message telling the user they can ride with an adult,
5. If the height is or is above the ride alone threshold, it should print a message telling the user they can ride.

Questions



The background features a dark red gradient. On the left side, there is a large, abstract graphic element consisting of numerous thin, light red lines that curve and overlap, creating a wavy, organic shape. A similar smaller wavy pattern is located in the bottom right corner.

Lab Time