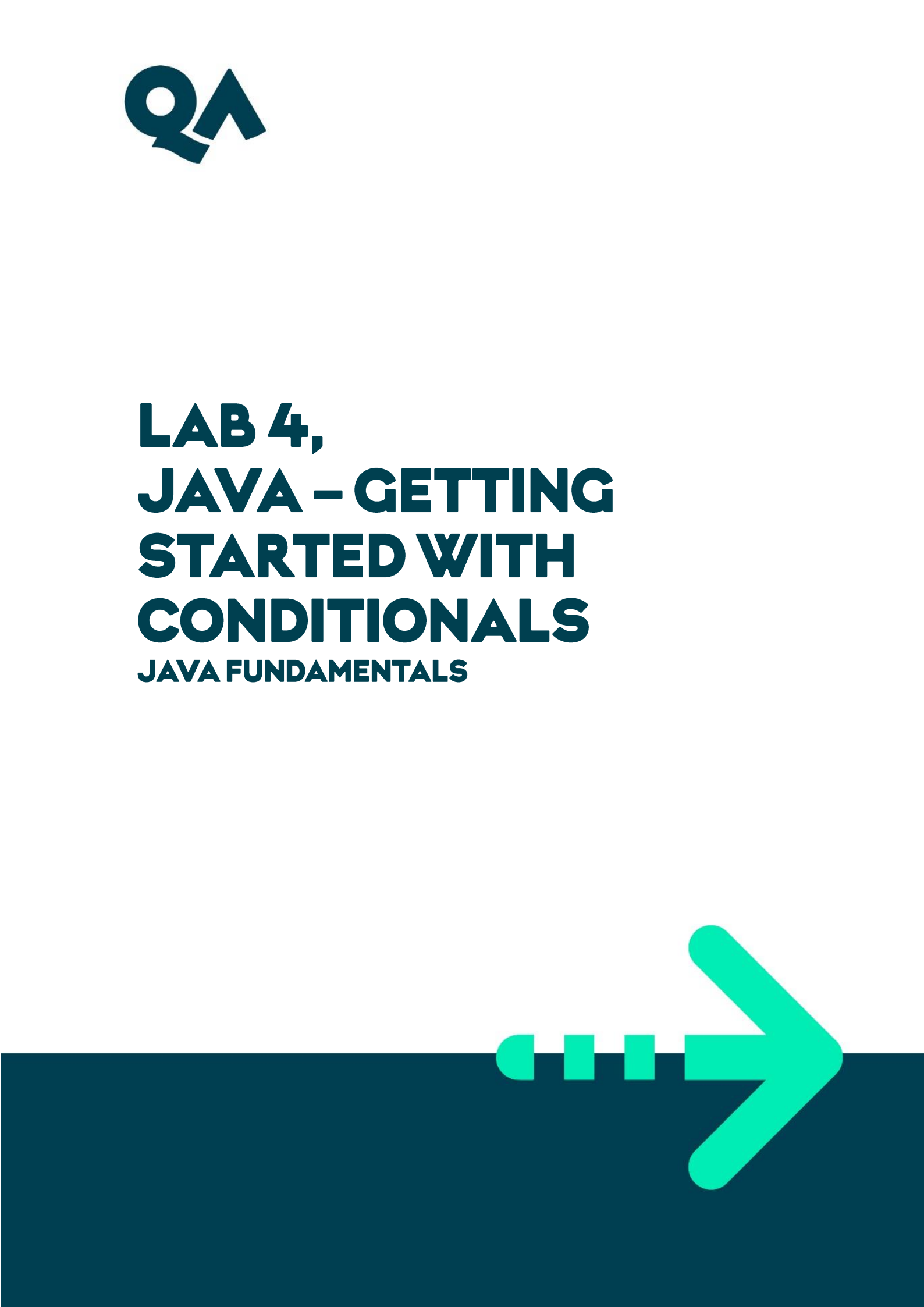

LAB 4, JAVA – GETTING STARTED WITH CONDITIONALS

JAVA FUNDAMENTALS

Lab 4, Java – Getting started with Conditionals

Objective

The objectives of this practical session are to practice using conditional expressions (if, else and switch).

Overview

In this practical called 'Kids in a Candy Store' you'll practice using if else statements

Introduction to 'Kids In a Candy Store'

In this practical you will prompt the user for the price of a bag of sweets in pennies, also the amount of money they have (in pennies) and then perform a calculation to work out how many bags of sweets they can afford. Then it will be possible to display a friendly message like:

"The price is 'x'p and you have 'y'p then you will be able to buy 'z' bags".

Step by step instructions.

1. Back in the **labs** project which you created in **Lab1**, add a new package called lab04.

   Please refer to lab1's instructions if you need help.

2. Add a new class called Program to the *lab04* package with a *main()* method.

3. Add a class called **Lab4** to this package (with no main method)

4. Transfer the code for **getInt()** which you wrote in the previous lab to the Lab4 class.

5. Create a method in Lab4 as:

   ```
   public void part1() {
   }
   ```

6. Create an instance of Lab4 in the main() and call the part1() method to get ready for the rest of this exercise.

   ```
   Lab4  lab4 = new Lab4();
   lab4.part1();
   ```

   From now all your code will go in the part1() method.

7. Ask the user "Price of a bag please?" and hold the result in a variable.

8. Ask the user "How much money do you have?" and record it in a variable.

9. Calculate the number of bags they can afford and store in a variable called `numBag`.
10. Now display a message in the format
    "If the price is 'x'p and you have 'y'p then you will be able to buy 'z' bags".
11. Build and test your code using values of '20' for price and '45' for money and ensure that it says '2' bags can be purchased.
12. Test your code again using values of '20' for price and '15' for money and ensure that it says '0' bags can be purchased.

    The message looks odd and it will look even stranger if the user enter negative values. It will also crash the program if the user enters zero as the price of a bag. We need to bulletproof your code.
13. If the price of a bag is a negative number then display a suitable message and return from the part1() method.
14. Similarly, if the user has zero or negative amount of money then you shoul display a suitable message and return.
15. Is there any other way you can protect this application from users!
16. You should now test your code using the following test values.

Price	Money	Outcome	Error Message
-10	n/a		"Price must be ...."
0	n/a		"Price must be ...."
10	-5		"Money must be ..."
10	0		"Come back with your pocket money"
10	30	...can afford 3 bags...	

17. You should now test your code using the above test script.
18. You have now avoided any divide by zero exceptions being thrown.

** End **