# Lab 4: Chapter 4, “Conditionals and Loops”

The following exercises are intended to help you apply and practise the concepts introduced in this module. This work is **not** submitted for marks. The questions are from the end of the chapter in your text under the “Exercises” or “Programming Projects” headings.

Try to answer the questions on paper first. Then insert the code in a Java program to see the actual result.

1. What is wrong with the following code fragment? Will this code compile if it is part of an otherwise valid program? Explain.

if (length = MIN\_LENGTH)  
 System.out.println ("The length is minimal. ");

1. What output is produced by the following code fragment?

int num = 87, max = 25;  
if (num >= max\*2)  
 System.out.println ("apple");  
 System.out.println ("orange");  
System.out.println ("pear");

1. What output is produced by the following code fragment?

int limit = 100, num1 = 15, num2 = 40;  
if (limit <= limit)  
{  
 if (num1 == num2)  
 System.out.println ("lemon");  
 System.out.println ("lime");  
}  
System.out.println ("grape");

1. What output is produced by the following code fragment?

int num = 0, max = 20;  
while (num < max)  
{  
 System.out.println (num);  
 num += 4;  
}

1. What output is produced by the following code fragment?

for (int num = 0; num <= 200; num +=2)  
 System.out.println (num);

1. Transform the following while loop into an equivalent do loop. (Make sure it produces the same output.)

int num = 1;  
while (num < 20)  
{  
 num++;  
 System.out.println (num);  
}

1. Transform the while loop from Exercise 4.11 into an equivalent for loop. (Make sure it produces the same output.)
2. Write a do loop that verifies that the user enters an even integer value.
3. Write a for loop to print the multiples of 3 from 300 down to 3.
4. Write a code fragment that determines and prints the number of times the character ‘z’ appears in a String object called name.
5. Write a code fragment that prints the characters stored in a String object called str backward.

Review your work by viewing the solution sheet.