Programming 1 Week 4 exercises

Create a week 4 folder in your programming 1 folder if you have not already done so.

The objective of these exercises is to make you familiar with the 'if' statement and making decisions in your programs.

1. Extract each of the following programs and add them to a file (with the same name as the class in the code) and compile and remove errors to get them working correctly. Remember to make sure you run the program more than once so that all lines of code are executed sometime.

```
// This program determines the absolute value of an integer - that is
// if it is negative it prints out it's positive value.
//  Exercise Tutor  Oct 2020

import javax.swing.JOptionPane;

public class Exercise1
{
  public static void main(String[] args)
  {
      int num, temp;
      String input;

      input = JOptionPane.showInputDialog("Enter a number");
      num = Integer.parseInt(input);

      temp = num;
      if (num < 0);
         temp = - num;

      JOptionPane.showMessageDialog(null, "The absolute value of "+ nom + " is "+temp);
   }
}
```

```
// This program determines the area of a circle
//  Exercise Tutor  Oct 2005

import javax.swing.JOptionPane;

public class Exercise1b
{

  public static void main(String[] args)
  {
      double area ;
                  final double PI = 3.14159 ;
      String input = JOptionPane.showInputDialog("Enter radius");
      radius = Integer.parseInt(input);
```

```
                if (radius >= 0)
                {
                        area = radius*radius*PI;
              JOptionPane.showMessageDialog(null,
                "The area for the circle of radius " + radius +
                " is " + area);
                }
                else
                {
                        JOptionPane.showMessageDialog(null,"Negative radius");
                }
      System.exit(0);
   }
}
```

2. Write a program which prompts for, and inputs two integers, and prints one of the following, depending on the values entered: `The first number is bigger`, `The second number is bigger`, `The two numbers are the same`.

3. Write a program which inputs two integers and swaps their values. HINT: You will need to declare a temporary variable.

4. Write a program which reads in a temperature in degrees Celsius and outputs:

- `Cold` if the temperature is less than 10
- `Hot` if the temperature is greater than 22
- `Normal` otherwise.

5. Write a program which inputs three whole numbers and displays their values in ascending order (if two numbers are the same, it doesn't matter which order they are displayed in). This is not easy! Hint – declare three extra variables (smallest, middle and largest), test the first two numbers, storing the smallest in 'smallest' and largest in 'largest'. Then use the final input to give middle a value (which may change smallest or largest) and you will have them in the right order!

6. Change program 5 to sort three characters into ascending order.