

# Fundamentals of Programming 1

## Exercise sheet 10 – 10%

**\*\*\* READ THE QUESTIONS CAREFULLY \*\*\***  
**\*\*\* NAME YOUR FILES Question1.java etc \*\*\***  
**\*\*\* SUBMIT NEAT AND TIDY CODE (INDENT) \*\*\***

**Test your procedures/functions by calling them in the main method of the Java program**

### Question 1

Write a Java program that declares a **procedure** called *menu* which prints the following message to screen. **NOTE:** No need for loops, just use **println** for each line of the menu. The exact number of \*'s does not matter.

```
*****
*      A M O N G   U S      *
*****
*      1) Take out trash    *
*      2) Fix wires         *
*      3) Card swipe        *
*      4) Vent              *
*****
```

### Question 2

Write a Java program that declares a **procedure** called *printAscii* that displays the printable characters on the ascii table to screen. The output from the procedure should look as follows:

```
! " # $ % & ' ( )
* + , - . / 0 1 2 3
4 5 6 7 8 9 : ; < =
> ? @ A B C D E F G
H I J K L M N O P Q
R S T U V W X Y Z [
\ ] ^ _ ` a b c d e
f g h i j k l m n o
p q r s t u v w x y
z { | } ~
```

### Question 3

Write a Java program that converts its command line arguments to uppercase and prints them to the screen.

```
StephenSheridan@Lpt-50017434 Examples % java Question3 java programming rocks
JAVA
PROGRAMMING
ROCKS
```

#### Question 4

Write a Java program that prompts the user to enter the radius of a circle. Your program should calculate the Circumference and Area of the circle using the formulae shown below. NOTE: You should decompose this problem into the appropriate **functions** to carry out the task.

$$C = 2 \pi r \quad A = \pi r^2$$

```
Enter circle radius: 10
Circumference = 62.80
Area = 314.00
```

#### **Deliverables**

Place all your Java source files in a folder called **Week10**. Zip the Week10 folder and upload the zip file using the Week10 upload link for your group on MOODLE.

**All work must be submitted during your scheduled practical sessions.**

#### **Plagiarism**

This assessment should be an individual piece of work. Any evidence of plagiarism will result in a grade of zero for all parties involved and will trigger the Universities plagiarism policy 3AS08 (see course coordination page).