

The University of Melbourne
Department of Computer Science and Software Engineering
433-254 Software Design
Semester 2, 2003
Lab 2
Week 3

1. Writing Simple Classes:

- a) In Java systems, there is only one class with the 'main' function, which initiates the execution of the whole system. Therefore, in order to test individual classes (i.e. unit testing), developers are usually writing a simple class with a main function (also known as a driver class) that simply calls all different functions of a target class and prints the results.

Your task is to download the file "Keyboard.java" from:

www.cs.mu.oz.au/254/Keyboard/Keyboard.html

and write a simple driver program that tests the following methods from

Keyboard.java:

readString()	readInt()
readWord()	readLong()
readChar()	readFloat()
readBoolean()	readDouble()

- b) Write a Java class Student to meet the following specification. - The class should be able to support a 5 digit student ID, student name, marks for 3 subjects. You should have methods to set and get each of the attributes, and calculate the average for the student. Write a tester program to test your class. You should create 2 or 3 students and write code to test the class. Aim - Understand how to define a class and create objects of the class.

2. Last Week's Extra Work:

If you haven't done the last week's extra exercises, you must do them this week! Here they are again:

- (a) Write a java program that takes your first name and last name as command line arguments to the program and displays your name and last name on separate lines.
Aim: Understand the use of command line arguments.
- (b) Write a program that calculates the total wages based on the number of hours worked. The wages are calculated at a rate of 8.25 per hour for up to 40 hours and at the rate of 1.5 the standard rate for any hours greater than 40. Number of hours is a command line argument to the program.

Hint: Use Integer.parseInt(String s) converts a string to an integer (To convert the

number of hours from command line to integer). We will understand this as we get through the rest of the lectures and labs but use it for now.

Aim: Understand the use of if-else and constants.

(c) Write a program to take the student's grade as an input argument and print the comments as follows 100 (Perfect Score), 90-100 (Excellent), 80-90 (Good), 70-80 (Above Average), 60-70 (Average) 50-60 (Below Average), 0-50 (Not Passing).

Hint: use switch statement.

Aim: Understand the use of switch statement.

(d) Write a program to print all odd numbers between 1 and 20. Note : Use while loop.

Aim: Understand the use of while loop.