

CS175: Programming in Java 2016/17

LAB Questions - SET 4 20 March 2017

Note: All questions should be tested (compile and run). You can use command window or Java IDE. Create a different classname for each question. If using IDE, then all classes should be in the same Project as it was in LAB Questions - SET 3.

Note: *Some of the Questions can be answered by utilizing the code you developed in LAB Questions - SET 3.*

Question 1

Write a program which will prompt the user to specify a positive value of N from the keyboard where $1 \leq N \leq 20$ and then the program should display the first N odd numbers. That means, if N=4 then numbers 1 3 5 7 should be displayed. Numbers should be separated from each other using a single space. If N is outside the range, display the message “**Value of N entered is outside the range, Please try again**” and the user should be given another chance to re-enter the value of N. Test your program with (a) N=5 (b) N=8 (c) N=20 (d) N=25

Question 2

Write a program which prompts the user to enter **month** value in the range of 1 to 12 and another integer variable **year** in the range of 1980 to 2008 and then display the **month name** and **numbers of days** in that month. If either of the value is outside the range display the error message “**Either month or year or both are outside the range, please try again**” and then the user is given another chance to re-enter the wrong value(s). If correct values are entered, display the results. Take care of the month February depending whether you have leap year or not. Utilize the switch structure somewhere in your program. Test your program with (a) month=2, year=2008 (b) month=11, year=1999 (c) month=13 year=2008 (d) month=7 year=2000 (e) month=2 year=2007. **TIP:** Visit <http://www.onlineconversion.com/leapyear.htm> to check if the year or range of years are leap or not.

Question 3

Write a program which prompts to enter your first name, last name, Registration number, study Program, and year of birth (all in different variables) from the keyboard and then display entered information on the computer screen (each on a separate lines) including your age. Restrict the year of birth to be between 1998 and 2003 all inclusive. Sample of display should be as follows:

```
First name:      John
Last name:       Kimaro
Reg. Number:     2006-04-05450
Program:         Computer Engineering and Information Technology
Year of Birth:   1999
My age is       : 18 years
```

Question 4

Write a program which will prompt the user to enter the name of student and his/her score where score should be between 0 and 100 (**all inclusive and should be a double number**). Then display the name, score, grade (A, B+, B, C, D and E) and remark (Pass or Fail) . All information must be in a single line. Then the program asks the user if he/she want to process another student. If the answer is **0** then quit, if answer is **1** then process another student, otherwise re-input the answer. If the user enters wrong score, then he/she should get an error message of your choice and then he/she should re-enter the score. Score should be defined as real number. Sample output is:

```
Student name: Jumanne Hassan
Score:       87.5
Grade:       A
Remark:      Pass
Do you want to continue (0/1)?
```

= END ==