
Due Date:	By 11:59pm October 11 2019
Evaluation:	3% of final mark (see marking rubric at the end of handout)
Late Submission:	none accepted
Purpose:	The purpose of this assignment is to help you learn Java identifiers, assignments, input/output, selection and flow of control statements: if, if/else and for loops
CEAB/CIPS Attributes:	Design/Problem analysis/Communication Skills

General Guidelines When Writing Programs:

- Include the following comments at the top of your source codes

```
// -----
// Assignment (include number)
// Written by: (include your name(s) and student id(s))
// For COMP 248 Section (your section) - Fall 2019
// -----
```
- In a comment, give a general explanation of what your program does. As the programming questions get more complex, the explanations will get lengthier.
- Include comments in your program describing the main steps in your program. Focus in your comments rather on the why than the how.
- Display a welcome message.
- Display clear prompts for users when you are expecting the user to enter data from the keyboard.
- All output should be displayed with clear messages and in an easy to read format.
- End your program with a closing message so that the user knows that the program has terminated.

Question 1

Season	Month name
SPRING	1- Farvardin
	2- Ordibehesht
	3- Khordad
SUMMER	4- Tir
	5- Mordad
	6- Shahrivar
FALL	7- Mehr
	8- Aban
	9- Azar
WINTER	10- Dey
	11- Bahman
	12- Esfand

Above is the Persian Calendar. Write a program that given a number from 1 to 12 outputs what month corresponds to it (1 = Farvardin, 12 = Esfand) and what season. You may assume an integer number as input but if the input is not between 1 and 12 inclusive, you should output that it's not a valid month.

Write 2 versions of the program:

- (a) One version using an if/else statement
- (b) One version using a Switch statement

Here are a few sample outputs to illustrate the expected behavior of your program.

Note: user input is highlighted in grey.

```
Please enter the Month as a number 1-12: 1
We are in Farvardin, Happy Spring
```

```
Please enter the Month as a number 1-12: 4
We are in Tir. Have Fun in summer
```

```
Please enter the Month as a number 1-12: 7
We are in Mehr, Ready For Fall
```

```
Please enter the Month as a number 1-12: 10
We are in Dey, Keep warm Yourself in Winter
```

Question 2

The circumference of a figure is the sum of all sides. As we know, the length of all sides in square is equal. Write a program that takes the length of a side of a square and calculates its circumference. Show the shape using the "X" and the main diagonal with "\"

Here are sample outputs to illustrate the expected behavior of your program.

Note: user input is highlighted in grey.

```
-----
Circumference Calculator
-----

Please enter the length of the side!
12
The Circumference of the Square is 48
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```

Question 3 (Mini calculator)

In this question, you are asked to write a simple calculator. The user inputs the expression to be evaluated using the following format:

Operand#1 operation Operand#2 (without spaces.)

For example

123+321

The operands are integer and your program should extract the operation and operands from the String and then print the result. For the sake of simplicity, the user should not use the space between the operand and operation. The operations are addition, subtraction, multiplication and division. User is free to enter any value but those values should not be negative.

Here is an example of the output to illustrate the expected behavior of your program. The yellow highlights are your input to the program and the green highlights are the program output.

```
Hello to mini calculator program.
Please enter the numbers along operation (press q to exit):
23x45
The answer is: 1035.0
Please enter the numbers along operation (press q to exit):
23+3
The answer is: 26.0
Please enter the numbers along operation (press q to exit):
12/3
The answer is: 4.0
Please enter the numbers along operation (press q to exit):
18-60
The answer is: -42.0
Please enter the numbers along operation (press q to exit):
q
Thanks for using mini calculator program.
```

Hint: you can use `Integer.parseInt()` to convert a numerical string to an integer.

Submitting Assignment 2

- Zip the source code (the .java file only please) of this assignment.
- Naming convention for zip file: Create one zip file, containing the source files for your assignment using the following naming convention:

- The zip file should be called *a#_studentID*, where # is the number of the assignment and *studentID* is your student ID number.
For example, for the first assignment, student 123456 would submit a zip file named *a1_123456.zip*
- Please check your course webpage or eConcordia on how to submit the assignment.
- **Be sure to keep your submission confirmation email.**

Evaluation Criteria for Assignment 1 (20 points)

Source Code	
Comments for all 3 questions (5 pts.)	
Description of the program (authors, date, purpose)	1 pts.
Description of variables and constants	1 pt.
Description of the algorithm	1 pts.
Programming Style for all 3 questions (3 pts.)	
Use of significant names for identifiers	1 pt.
Indentation and readability	1 pt.
Welcome Banner/Closing message	1 pt.
Question 1 (3 pts.)	
Prompting user/reading data	1 pt.
Determine day and output if weekend or weekday (if/else)	1 pt.
Determine day and output if weekend or weekday (switch)	1 pt.
Display results	1 pt.
Question 2 (3 pts.)	
Read the length	0.5 pts.
Determine the area and print	0.5 pt.
Calculate the picture	2 pt.
Display correct results	2 pts
Question 3 (6 pts.)	
Analysing string	3 pt.
Performing operation	1 pts.
Display results	1 pts.
TOTAL	20 pts.