

school of **computing, informatics, & decision systems engineering**

CSE 110 – Assignment #2

Maximum points: 20 pts

Topics

- Java API Document
- To declare and use variables
- Arithmetic Expressions
- Using Scanner class to get the input from the user

Use the following Guidelines:

- Give identifiers semantic meaning and make them easy to read (examples numStudents, grossPay, etc).
- Keep identifiers to a reasonably short length.
- User upper case for constants. Use title case (first letter is upper case) for classes. Use lower case with uppercase word separators for all other identifiers (variables, methods, objects).
- Use tabs or spaces to indent code within blocks (code surrounded by braces). This includes classes, methods, and code associated with ifs, switches and loops. Be consistent with the number of spaces or tabs that you use to indent.
- Use white space to make your program more readable.

Important Note:

All submitted assignments must begin with the descriptive comment block. To avoid losing trivial points, make sure this comment header is included in every assignment you submit, and that it is updated accordingly from assignment to assignment.

Your programming assignments require **individual** work and effort to be of any benefit. Every student must work independently on his or her assignments. This means that every student must ensure that neither a soft copy nor a hard copy of their work gets into the hands of another student. Sharing your assignments with others in any way is **NOT** permitted. Violations of the University Academic Integrity policy will not be ignored. The university academic integrity policy is found at <http://www.asu.edu/studentlife/judicial/integrity.html>

Part 1: Writing Exercise: (5 pts)

1. (2pts) What do the following expressions evaluate to in Java given

- ```
int x = 3, y = 6;
```
- a) `x == y / 2`
  - b) `x % 2 == 0 || y % 2 != 0`
  - c) `x - y < 0 && !(x >= y)`
  - d) `x + 6 != y || x / y <= 0`

2. (1 pts.) Write statements to prompt for and read the user's full name using a Scanner variable.

3. (2 pts.) What does the following statement sequence print? (page 63)

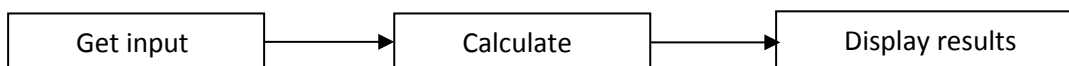
```
String str = "Harry";
int n = str.length();
String mystery = str.substring(0,1) + str.substring(n-1, n);
System.out.println(mystery);
```

```
/*
Question1:
a) XX
b) XXX.XXX
...
*/
```

## Part 2: Programming (15 pts)

Write a Java program called **Assignment2.java**. The program is to display questions and read user inputs, then calculate and print out the requested value with a proper format.

This program will follow a very simple process.



- Task 1 **(6 pts)**: Calculate the average value from input three integer values. Use **two-decimal format** (use only two digits) for printing the average value. It is OK to use `System.out.printf()` method (Look at the page 50), though it is possible to complete this task without using the `printf` method.
- Task 2 **(6 pts)**: Calculate the total number of characters from input three String values. Check the difference between the **next()** (Look at the page 60) and **nextLine()** (Look at the JAVA API) methods of Scanner.
- Task 3 **(3 pts)**: Convert the total seconds to the hours, minutes, and seconds. For example, 8124-seconds is converted to 2: 15: 24 (2 hours, 15 minutes, and 24 seconds)

Use only the Java statements that have been covered in class to date. This means you CAN use declaration, assignment, input and output statements. **DO NOT** use any other statements (if-else, loop, etc.). If in doubt, ask your TA or instructor. If you use them, then you lose the points of task. Complete each task one by one. The Task3 has only 3 points, but it is the hardest question (The similar program is explained in the page 54-56). If your program file does not run correctly, then you may lose all 15 points. If your program works only for the Task1 or Task2 without Task3, then you get 6 points. If it works for both the Task1 and Task2 without Task3, then you get 12 points.

### Example Execution:

The following is an example input and output. The input is shown in red. Make your own questions rather than this example.

```
*** TASK 1: Calculate the average of three inputs ***
```

```
Please input the first integer: 3
```

```
Please input the second integer: 5
```

```
Please input the third integer: 8
```

```
The average of three inputs is: 5.33
```

```
*** TASK 2: Calculate the # of characters ***
```

```
What is your first name?: Robin
```

```
What is your middle name(If not, just type the RETURN key)?: McLaurin
```

```
What is your last name?: Williams
```

```
The total number of character is: 21
```

```
*** TASK 3: Convert the seconds to H:M:S ***
```

```
Please input the total seconds: 8124
```

```
The total time (Hours:Minutes:Seconds) is: 2:15:24
```

```
*** END OF Assignment#2 ***
```

/\*\*\*\*\*\*

### **Submit your homework by following the instructions below:**

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- Go to the course web site ([my.asu.edu](http://my.asu.edu)), and then click on the on-line Submission tab. Log in the site using the account, which was registered at the first Lab session. Make sure you use the correct email address for registration. This will allow you to submit assignments. Please use your ASU e-mail address.

- Submit your **Assignment2.java** file on-line. Make sure to choose Hw2 from drop-down box.

- Assignment2.java should have the following, in order:

- In comments, the assignment Header described in "Important Note".
- In comments, the answers to questions a-e presented in Part#1.
- The working Java code requested in Part #2.
- The Assignment2.java file must compile and run as you submit it. You can confirm this by viewing your submission results.

**Important Note:** You may resubmit as many times as you like until the deadline, but we will only mark your last submission. **NO LATE ASSIGNMENTS WILL BE ACCEPTED.**