Jonah Largen

Assignment #01

5/12/17

Problem 1

Description: A program that displays my initials, JHL, in large block letters. Each large letter is made of the corresponding regular character.

Logic: Print the block letters using a 9x9 grid of characters, with a 3x9 grid of white space in between each block letter. Each line will be on its own print line to enhance readability.

Input/Output: There is no input. The output is as follows.

```
<terminated> Problem1 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (May 12, 2017, 4:59:39 PM)
JJJJJJJJJ   HHH    HHH    LL
JJJJJJJJJ   HHH    HHH    LL
   JJJ      HHH    HHH    LL
   JJJ      HHH    HHH    LL
   JJJ      HHHHHHHHH     LL
JJ JJJ      HHH    HHH    LL
JJ JJJ      HHH    HHH    LL
JJJJJJ      HHH    HHH    LLLLLLLLL
JJJJJJ      HHH    HHH    LLLLLLLLL
```

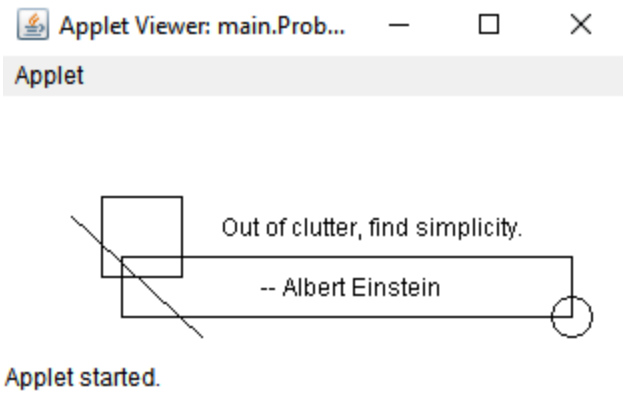
Conclusion: The code works as expected and prints my initials.

Problem 2

Description: The Einstein applet program modified so that the circle is centered at the bottom right hand corner of the rectangle.

Logic: Change the x-y values of the circle from (75,65) to (275,100) to move the circle. 275 represents the width of the rectangle (225) + the x offset from the y-axis of the rectangle (60) – half the radius of the circle (10). 100 represents the height of the rectangle (30) + the y offset from the x-axis of the rectangle (80) – half the radius of the circle (10).

Input/Output: There is no input. The output is as follows.



Conclusion: The code works as expected and prints the circle at the bottom right hand corner of the rectangle.

Problem 3

Description: A program that reads time in hours, minutes, and seconds, then converts the time to seconds only.

Logic: Scan in hours, minutes, and seconds individually as three separate variables. The variable seconds will also have 60 * minutes + 3600 * hours added on so it will represent the final number of seconds, as there are 60 seconds in a minute and 3600 seconds in an hour. It is then printed out and the scanner is closed.

Input/Output:

Run 1 - {Input Given: 2 hours, 15 minutes, 30 seconds} {Expected Output: 8130 seconds} {Actual Output: 8130 seconds} {Successful Output}. The output is as follows.

```
<terminated> Problem3 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (May 12, 2017, 5:14:22 PM)
Enter number of hours:
2
Enter number of minutes:
15
Enter number of seconds:
30
Total: 8130 seconds.
```

Run 2 - {Input Given: 3.5 hours, 0 minutes, 15 seconds} {Expected Output: 12615 seconds} {Actual Output: 12615 seconds} {Successful Output}. The output is as follows.

```
<terminated> Problem3 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (May 12, 2017, 5:19:47 PM)
Enter number of hours:
3.5
Enter number of minutes:
0
Enter number of seconds:
15
Total: 12615 seconds.
```

Conclusion: The code works and correctly converts the time to seconds.

Problem 4

Description: A program that prompts for an integer representing the length of a square's side, then prints the square's perimeter and area.

Logic: Scan in length as an integer variable. Then set a perimeter integer variable to the length times four, and the area integer variable to the length squared. Both are printed out and the scanner is closed.

Input/Output:

Run 1 - {Input Given: 5 units} {Expected Output: 20 Unit Perimeter, 25 Unit Squared Area} {Actual Output: 20 Unit Perimeter, 25 Unit Squared Area} {Successful Output}. The output is as follows.

```
<terminated> Problem4 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (May 12, 2017, 5:24:12 PM)
Enter integer length of square's side:
5
Perimeter: 20 Units.
Area: 25 Units Squared.
```

Run 2 - {Input Given: 25 units} {Expected Output: 100 Unit Perimeter, 625 Unit Squared Area} {Actual Output: 100 Unit Perimeter, 625 Unit Squared Area} {Successful Output}. The output is as follows.

```
<terminated> Problem4 [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (May 12, 2017, 5:25:06 PM)
Enter integer length of square's side:
25
Perimeter: 100 Units.
Area: 625 Units Squared.
```

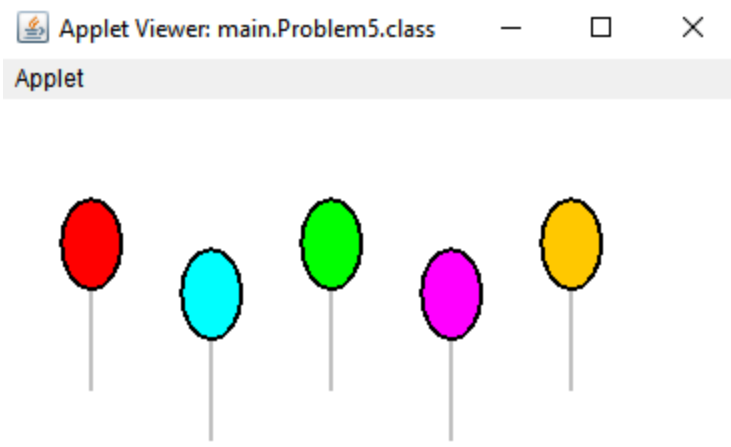
Conclusion: The code works and correctly converts length to area and perimeter.

Problem 5

Description: Write an applet that draws variously colored balloons tied to strings.

Logic: Set a stroke length of two for a better outline. First draw the different colored circles using the fill oval method, with a width height ratio of 2:3. Next draw the strings using the draw line method as the color gray with a height of 50. Lastly draw the outline of the balloon using the draw oval method as the color black on top of the circles.

Input/Output: There is no input. The output is as follows.



Applet started.

Conclusion: The code works as expected and prints the different colored balloons.