Homework 2

**Final Grade: 5% (100 points)**

**Submission Instructions:**

* Please write the answers in your own words.
* Make an electronic pdf file and submit it electronically through Brightspace.
* Email or hardcopy submission will not be accepted.
* Upload your java files separately. Code should not be copied in this document.
* Screenshots must be pasted in the document below each question.
* You must edit this document. Do not delete questions.

1. (20 points) Which of the following are valid/invalid Java variable names and why?

|  |  |  |
| --- | --- | --- |
| Variable | Valid or Invalid | Reason? |
| $12 |  |  |
| xyz123\_ab |  |  |
| Data-rec |  |  |
| Apple12 |  |  |
| break |  |  |
| \_xyz |  |  |
| human98 |  |  |
| 98human |  |  |
| sport.213 |  |  |
| #fruits |  |  |

1. (10 Points) What are variables and constants in Java? How are they used in a program? Provide two examples of each.
2. (10 Points) What are primitive data types in Java? Explain briefly.
3. (30 Points) Given three floating-point numbers x, y, and z, write a program to output the following:

* x raised to the power of z
* x raised to the power of (y to the power of z)
* absolute value of y
* square root of (x \* y to the power of z)

Refer to the sample output below. **Submit your code separately and include a screenshot here.** Your screenshot must use the same values as shown in the sample output.

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1. (30 Points) Write a Java program to prompt the user for hours and rate per hour to compute gross pay. Refer to the sample output below**. Submit your code separately and include a screenshot here.** Your screenshot must use the same values as shown in the sample output. Submit all three screenshots.

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