Lab Report 1

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Problem

The problem at hand is to draw a certain shape in a Java program, and then display two copies of that shape horizontally adjacent to each other.

Proposed Solution

The simplest way to solve this problem is to have multiple print lines that can slowly construct the desired image from top to bottom. This will allow the programmer to properly display the specific image for each line of code which will eventually form the whole image. Start with the initial printed statement (Drawing the Initial Shape) above the first image followed by an empty print statement below it in order to create a space between the initial statement and the first image. Make sure to also have an empty print statement after the first image is created to make sure there is a gap between the first image and the next two. Once you've created the first image, the process for making the second set of images is relatively straightforward. Repeat the previous steps with the initial statement and the empty print line afterwards before the images. When making the two images side-by-side, simply add multiple spaces between them within the same print statement. Also add a print line for the phrase above the two images.

Tests and Results

When the program is run on the console, the first image with the phrase "Drawing the initial shape" above it. Below that the two copies of the shape should appear with the phrase "Displaying two copies of the shape that are horizontally adjacent:" above them. There really was no need for multiple numbers of tests as there is only one outcome to the program that does not require any conditions to be met or any user input.

Problems Encountered

There were problems with at first deciding how to translate the image into proper lines of code with all parts of the image lining up properly. At first certain aspects of the image were out of place or were flat out wrong. For example, in certain spots where underscores were needed, dashes were used instead. This resulted in the image having a different appearance than intended. There were really no syntax error issues as there was only one main function that was used and the sequencing in the code was very simple because of this.

Conclusions and Discussion

Overall, the lab was simple as the code was repetitive and required trial and error to reflect the proper image onto the code. There really are not any other effective ways to solve the problem, and there is little variation within the main solution. Small details could be changed to make things slightly simpler. For example, when printing two copies of the image side by side, rather than putting multiple spaces in-between them, the tab command could've been used instead to simplify the code.

Additional Questions

There may be additional questions that will be provided in order to demonstrate the understanding of the subject.

1. What is bytecode?

Bytecode is the machine language for a hypothetical computer – Java Virtual Machine – which is compatible across multiple operating systems.

2. Expand RAM.

RAM stands for random access memory and acts as the main source of storage memory for the computer when it is running. It is usually measured in bytes and saves changes made on any application in use while the computer is running.