CPSC 1050 - Chapter 5 & 6 Lab

Lab Questions (10 Points)

1. The basic operation cycle of a computer is known as the Fetch-Execute Cycle or Fetch-Decode-Execute Cycle. Complete the following table: (2 Points)

Cycle	Which Unit(s) of von Neumann Architecture are involved (Memory, CPU, ALU, Control, Input, Output)	Computing Components Involved (Memory, CPU, Input Devices, Output Devices)
Fetch		
Decode		
Get Data		
Execute		

2. What are the two key characteristics of the von Neumann Architecture? (2 Points)

3. Write the pseudocode to calculate the volume of a cylinder for radius = 10.50, height = 15.01, and pi = 3.1415. (2 Points)

4. Download the pep8 program (Windows OS only) from BrightSpace. Enter the following machine language program into pep8 virtual machine's Object Code window using hexadecimals – be sure to use zz instead of 00 as Stop. And set the output to be Terminal I/O. Insert a screenshot of a successful execution of the program as your answer to this question. (2 Points)

Action	Binary Instruction	Hex Instruction
Write "H"	01010000 0000000001001000	50 0048
Write "e"	01010000 0000000001100101	50 0065
Write "l"	01010000 0000000001101100	50 006C
Write "l"	01010000 0000000001101100	50 006C
Write "o"	01010000 0000000001101111	50 006F
Stop	00000000	00

5. Download the pep8 program (Windows OS only) from BrightSpace. Enter the following assembly language program into pep8 virtual machine's Source Code window. Insert a screenshot of a successful execution of the program as your answer to this question. (2 Points)

```
CHARO   0x0048,i; Output an 'H
CHARO   0x0065,i; Output an 'e'
CHARO   0x006C,i; Output an 'l'
CHARO   0x006C,i; Output an 'l'
CHARO   0x006F,i; Output an 'o'
STOP
.END
```

SUBMISSION

One document with all answers to BrightSpace in the folder called **Chapter 5 & 6 Lab**. The file format may be PDF, DOCx, or whatever file format based on the platform you choose to create your file.

DUE DATE

See BrightSpace. No late submissions accepted nor graded.