Computer Organization 2 Mid-Term

Instruction Block

# Question 1:

## 

## Part a)

For two computers Machine X and Machine Y we have, for a given program. The following instruction tables indicating the number of instructions in the program, and the number of clock cycles each instruction takes. Find the **Average Cycles per Instruction** for each machine.

|  |  |  |
| --- | --- | --- |
| Machine X | | |
| Instruction | # in program | Clock cycles per |
| ALU | 5 | 1 |
| Load | 3 | 2 |
| Store | 2 | 2 |

|  |  |  |
| --- | --- | --- |
| Machine Y | | |
| Instruction | # in program | Clock cycles per |
| ALU | 5 | 2 |
| Load | 3 | 3 |
| Store | 2 | 3 |

Average CPI Machine X: Average CPI Machine Y:

## Part b)

Knowing the CPI and the same number of instruction. If Machine X’s clock cycle speed is one fifth of Machine Y. Which machine will execute faster? By how much?

# Question 2:

Chart

Description automatically generated with medium confidenceGiven the following code segment select the correct assembly analogous. Circle answer.

Text

Description automatically generated

A picture containing graphical user interface

Description automatically generated

Application

Description automatically generated with low confidence

# Question 3: