Binary Instrumentation with PIN

Definition: In this homework, you are going to do some experiments with X68 ISA, which is the instruction set in your computers. For this task, you will use PIN Binary Instrumentation Tool:

- https://software.intel.com/en-us/articles/pin-a-dynamic-binary-instrumentation-tool

Task1: Count the total number of macroinstructions and microinstructions in the application.

Task2: In the ISAs, there are three classes of machine instructions:

- Memory Instructions (ie. Loads and Stores)
- Branch Instructions (ie. Jumps, Branches etc.)
- Arithmetic and Logic Instructions (ie. Add, Sub, Mul, Div, Shift, And, Or etc.)

Count the number of instructions in each class and find their ratio.