Name: _____

Due Date: Wednesday, April 5, 2023   **Student-Number:** _____

Submission: electronically on eTL (scan & upload)

Question 1
Instruction Encoding

An important C source code file went missing; we only have the header file left.

```
int foo(int a, int b, int c);
                                                    important.h
```

You manage to find and disassemble a binary of the file which was compiled for the RV32I architecture.

```
        .text
        .align    2
        .globl    foo
        .type foo, @function
foo:
        mul  a4,a1,a2
        mv   a3,a0
        li   a5,2
        sub  a5,a5,a2
        sll  a0,a1,a5
        mul  a2,a2,a3
        add  a4,a4,a3
        add  a4,a4,a0
        ble  a2,a4,.L1
        mv   a0,a1
.L1:
        ret
                                                    important.o
```

Reconstruct the original C code from the RISC-V object code. The arguments to the function are passed in registers a0 to a2, i.e., a is in a0, b in a1, and c in a2. The result of foo is returned in register a0.

```c
int foo(int a, int b, int c)
{




}
```

important.c