

# HW1 Keys

You need to show how you find out the answers in your submission.

Always write brief comments in your code.

## Q1

Work on hex digits or bits. For example, addition is done on hex digits.

ADD: B9AB2802

AND: 00AB4808

OR: B8FFDFFA

XOR: B85497F2

ADDI: 98ABD064

ANDI: 98ABCD60

SLLI: BCD6A000

SRAI: FF98ABCD

## Q2

Test your code in RARS, with different numbers. We can change the value in registers when the program stops at breakpoints.

## Q3

a. The total number of executed instructions is 146.

b. Your code may have a different number. Here are the numbers from the code in solutions. If  $s0 = 0$ , the number of executed instructions is 5. If  $s0 = 0xFF00FF00$ , the total number of executed instructions is 90.

## Q4

There are 11 instructions in the solutions, 4 of which are branches.

## Q5

Study the slides for ways to do multiplication and division in this problem.

Test your program with the numbers on the Wikipedia page.