

Homework 1

Due: Monday 1/12 at 11:59pm

Complete the following problems and submit them through Google Classroom (just the .asm file). The name of the submitted file should be based on your name or username so it's uniquely yours (so mine could be dbunde.asm or davidb.asm).

1. (20 points) Translate the code below into MIPS assembly. This is a program that prints a “house” with a triangle of asterisks on top of a square of pound signs. Note that you should translate this code rather than write a program that accomplishes this task a different way.

```
read an integer into size
i = 0;
while(i <= size) {
    j = size - i;
    while(j > 0) {
        System.out.print(' ');    //space is character 32
        j--;
    }
    System.out.print('*');        //asterisk is character 42
    j = 2*i - 1;
    while(j > 0) {
        System.out.print(' ');
        j--;
    }
    if(i != 0)
        System.out.print('*');
    System.out.println();        //newline is character 10
    i++;
}
size = (size-1)*2 + 1;
i = 0;
while(i < size) {
    System.out.print(' ');
    j = 0;
    while(j < size) {
        System.out.print('#');    //pound is character 35
        j++;
    }
    System.out.println();
    i++;
}
```

Here are some sample outputs. For size 1:

```
*
* *
#
```

Here is the output for size 2:

```
*
* *
*  *
###
###
###
```

Here is the output for size 3:

```
*
* *
*  *
*   *
#####
#####
#####
#####
#####
```

As always, I encourage you to implement this in steps.

- (1 point) At the top of your submission, put a statement about collaboration in a comment. This should either be “I didn’t work with anyone” or a description of who you talked with about the assignment and what you talked about. (For example: “David helped me get started, X and Y and I reviewed loops together, and I helped X debug the if statement.”)