**Andrew Ingalls**

**Assignment 3**

1. Why would you choose to use an if statement over a while loop?

* While loops can easily cause unwanted infinite loops if constructed wrong, if statements allow you to have a finite amount of iterations.

1. Write a program that prompts the user for a number and then tells you whether the number is positive or negative.

Text

Description automatically generated

1. If the following program is run, what is the output:
   1. x = 5

while x < 10:

print(x)

x = x + 1

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* 1. Which variable is the loop control variable in the program above?
* While x <10
  1. Removing which line in the above program causes an infinite loop?

Line 4 🡪 x = x+1