Problem 1

One bank account has 100 dollars and earns a 5% per year interest rate. Another account has 200 dollars, but this one only earns 2% per year. In both cases, the interest is deposited into the account once per year.

After how many years will the amount of money in the first account (with $100 initially) be greater than the second account? Solve this problem with a `while` loop.

Problem 2

Write a double loop over $0 \leq i, j < 10$ that prints the first pair where the product of indices satisfies $i \cdot j > N$, where N is a number you read in. A good test case is $N = 40$.

Secondly, find a pair with $i \cdot j > N$, but with the smallest value for $i + j$. Can you traverse the i, j indices such that they first enumerate all pairs $i + j = 1$, then $i + j = 2$, then $i + j = 3$, etc? *Hint:* write a loop over the sum value $1, 2, 3, \ldots$, then find i, j.

Your program should print out both pairs, each on a separate line, with the numbers separated with a comma: *e.g.,*

```
5,9
6,7
```