Review

Works with your teammate. See how many you can get done.

You don't need to submit this solution

Both questions are good exam practice!

One

- Ask the user for a positive, non-negative int, *x*.
- Display the values 1 to *x*, *x* to 1, and x, 2x, 3x,…xx as shown below.

```
C:\Windows\system32\cmd.exe

Enter a positive, non-negative integer: 10

       Value      Reverse      Square
       -------------------------------
           1         10          10
           2          9          20
           3          8          30
           4          7          40
           5          6          50
           6          5          60
           7          4          70
           8          3          80
           9          2          90
          10          1         100

Press any key to continue . . .
```

Two

- The Leibniz approximation for Pi/4 is:

$$1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \cdots = \frac{\pi}{4}.$$

- Write a program that will ask the user for a positive, non-negative integer, *x*, and estimate Pi using x terms (5 terms are shown above).

- Build the table shown on the next slide. The columns are 10, 15, and 45 characters wide. Show Pi to 30 digits past the decimal point.

- How many terms do you need to use until you consistently get 3.14 as an answer?

https://en.wikipedia.org/wiki/Leibniz_formula_for_pi

```
C:\Windows\system32\cmd.exe

Enter a positive, non-negative integer: 3

        Terms       Denominator                                       Pi
        --------------------------------------------------------------------
            1             1              4.0000000000000000000000000000
            2            -3              2.6666666666666669627261399000042
            3             5              3.4666666666666667850904559600017


Press any key to continue . . .
```

```
C:\Windows\system32\cmd.exe

Enter a positive, non-negative integer: 10

        Terms       Denominator                                       Pi
        --------------------------------------------------------------------
            1             1              4.0000000000000000000000000000
            2            -3              2.6666666666666669627261399000042
            3             5              3.4666666666666667850904559600017
            4            -7              2.8952380952380956102842901600052
            5             9              3.3396825396825402521017167600080
            6           -11              2.9760461760461764946228413464 27
            7            13              3.2837384837384844260554928041 53
            8           -15              3.0170718170718178186007207841 61
            9            17              3.2523659347188766943759219429 92
           10           -19              3.0418396189294032438965587061 83

Press any key to continue . . .
```