LAB C

- **Part A:** You will have to list all of the factors of all numbers from 1 to 100.
  A sample run of the program will print out the following:

```
1: 1
2: 1, 2
3: 1, 3
4: 1, 2, 4
5: 1, 5
6: 1, 2, 3, 6
7: 1, 7
...
...
...
999: 1, 3, ...
1000: 1, 2, 4, ...
```

  To make this program, you will have to print all numbers that are **divisible** by that number. **HINT:** Think of a table with rows and columns. The rows are the number from 1-1000 and the columns are the divisors. If 'a' is divisible by 'b', then (a % b = 0).

- **Part B:** You will have to print out all of the prime numbers between 2 numbers that the user types in.
  Expected output of the program:

```
First number? 5
Second number? 20

Prime numbers between 5 and 20 are:
5, 7, 11, 13, 17, 19

There are 6 primes.
```

  HINT: A number is prime only if it has **2 divisors.** Use your code from part A to help you!
- **Part C:** Print out all of the perfect numbers from 1 to 1000. There are only 3 perfect numbers from 1 – 1000. A perfect number is a number that is equal to the sum of its factors not counting the last number. For example 6 is a perfect number because 1+2+3 = 6