Topics:
Fruitful functions, return values, conditional execution, recursion, `while` statement, `break`.

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1. Sorting

Write a `sort` function asks the user to enter three numbers, and prints them out in an ascending order.

Ex:

```
>>> sort()
x = 3
y = 2
z = 1
Ordered: 1, 2, 3

>>> sort()
x = 4
y = 3
z = 4
Ordered: 3, 4, 4
```

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2. Comparison

Write a `compare` function takes two values, `x` and `y`, and returns `1` if `x > y`, `0` if `x == y`, and `-1` if `x < y`.

Ex:

```
>>> compare(6,4)
1
```

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3. Palindrome

Exercise 6.3

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4. Power

Exercise 6.4

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5. GCD

Exercise 6.5

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6. Square Root

Exercise 7.1

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7. Evaluation

Exercise 7.2

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8. PIN Code

a) Write a mini ATM program that keeps prompting the user to enter the correct PIN code number.
(`pin = 1234`; use `while`)

Ex:

```
>>> Enter your PIN number: 1111
Error! Try again: 1222
Error! Try again: 1224
Error! Try again: 1225
Error! Try again: 1234
Correct!
```

b) Modify your code so that the program stops if incorrect number has been entered three times in row.

Ex:

```
>>> Enter your PIN number: 1111
Error! Try again: 1222
Error! Try again: 1224
Error! Your card has been blocked.
```

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9. Mini Calculator

Write a program that prompts the user to enter a number repeatedly , and prints out the current total sum each time, until 0 is entered.

Ex:

```
> Enter a number: 60
Current sum: 60
> Enter a number: 100
Current sum: 160
> Enter a number: 180
Current sum: 340
> Enter a number: 0
TOTAL: 340
```

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10. Prime Numbers

a) Write a program that finds and prints out all the *prime numbers* from 1 to 1000.
Ex:

```
>>> prime()
2, 3, 5, 7, 11, 13, …, 991, 997
```

b) Modify your code so that the program outputs single-digit prime numbers in one line, two-digit results on the next line, and so on.
Ex:

```
>>> prime()
1, 2, 3, 5, 7
11, 13, 17, … , 97
101, 103, …, 997
```
