Recitation 02
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Values, Variables, User Input

> **Note**
>
> This series of questions is divided in two sections: PP and CC.
> • PP stands for Pen & Paper: these questions require you to put away your computer and figure out the answer with your wits alone (no cheating with the Python shell, please).
> • CC stands for Computer Code: you must write code and test it on your computer to work out your solutions for these questions. CC questions come from the course textbook.

Exercise 1 -   Numb and Number (PP)

Reduce the following expressions to their corresponding numerical values, and specify their type.

- `5 * -6` -30
- `34 // 10` 3
- `23 % 4.0` 3.0
- `(1 + 3) * (6 / 2)` 12.0
- `(1 + 3) + (6 / 2)` 7.0
- `(21 % 12) % 7` 2
- `3 * (17 / 3) + 17 % 3` 19.0

- `34 / 10` 3.4
- `34 % 10` 4
- `25 + 30 / 6` 30.0
- `(1 + 3.0) * (6 // 2)` 12.0
- `100 - 25 * 3 % 4` 97
- `(21 % 7) % 12` 0

Exercise 2 - Looking for Prints (PP)

Write out the output of each line in the space provided. If the line results in an error, write "error".

- `print(5 + "5")`
  "error"

- `print(5 + int("5"))`
  10

- `print(str(5) + int("5"))`
  "error"

- `print(15 % 2)`
  1

- `print("hey" + "yo")`
  heyyo

- `print(4 * "Let it be ")`
  Let it be Let it be Let it be Let it be

- `print("yo" * 4.0)`
  "error"

- `print("hi" + there)`
  "error"

- `print("You talkin' to me?\n" * 3 + "Then who the hell else are you talking to?")`
  You talkin' to me?
  You talkin' to me?
  You talkin' to me?
  Then who the hell else are you talking to?

- `print("Let it be " * 2 + "Let it be " * 2)`
  Let it be Let it be Let it be Let it be

Exercise 3 - Find The Lady (PP)

Consider the following variable assignments:

```
Left = "Lady"
Middle = "Jack"
Right = "Ace"
```

Figure out where the `'Lady'` is (Left, Middle, Right) after running the following programs

Program 1

```
1  Left, Right, Middle = Left, Middle, Right
```

Left

Program 2

```
1  Left, Right, Middle = Middle, Right, Left
```

Middle

Program 3

```
1  Left, Middle, Right = Middle, Right, Left
```

Right

Program 4

```
1  Left, Middle, Right = Middle, Right, Left
2  Left, Middle, Right = Middle, Right, Left
```

Middle

Program 5

```
1  Left, Middle, Right = Middle, Right, Left
2  Left, Middle, Right = Middle, Right, Left
3  Left, Middle, Right = Middle, Right, Left
```

Left

Program 6

```
1  Left, Middle, Right = Right, Right, Right
2  Left, Middle, Right = Left, Left, Left
3  Left, Middle, Right = Middle, Middle, Middle
```

no more Lady

Exercise 4 - Sales Prediction (CC)

A company has determined that its annual profit is typically 23 percent of total sales.
Write a program that asks the user to enter the projected amount of total sales, and then displays
the profit that will be made from that amount.

Exercise 5 - Ingredient Adjuster (CC)

A cookie recipe calls for the following ingredients:

- 1.5 cups of sugar

- 1 cup of butter

- 2.75 cups of flour

The recipe produces 48 cookies with this amount of the ingredients.

Write a program that asks the user how many cookies he or she wants to make, and then displays the number of cups of each ingredient needed for the specified number of cookies.