

LEARNING TO CODE



pythonTM

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IEEE SB OF THRACE

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EXERCISES



STRINGS

Define a class which has at least two methods:

- *getString*: to get a string from console input
- *printString*: to print the string in upper case

SOLUTION

```
class InputOutputString(object):  
    def __init__(self):  
        self.s = ""  
  
    def getString(self):  
        self.s = input("Give a new string")  
  
    def printString(self):  
        print(self.s.upper())
```


STRINGS

Write a Python program to reverse
a string word by word.

!! YOU WILL NEED:

- ***split()***

Example:

```
>>> x = "blue,red,green"  
>>> x.split(",")  
['blue', 'red', 'green']
```

- **join()** : merges all of the characters
- **reversed()** : you get a “view” into the existing string you can use to look at all the elements in reverse order.

SOLUTION

```
class py_solution:
    def reverse_words(self, s):
        return " ".join(reversed(s.split()))

print(py_solution().reverse_words("hello world"))
```



SING_ME_A_SONG

Define a class called Songs, it will show the lyrics of a song.

- Its `__init__()` method should have two arguments: `self` and `lyrics`. Lyrics are a list.
- Inside your class create a method called `sing_me_a_song` that prints each element of lyrics on a different line.

Hint! Your input will be:

"May god bless you, ", "Have a sunshine on you,", "Happy Birthday to you !"

SOLUTION

```
class Song(object):  
    def __init__(self, lyrics):  
        self.lyrics = lyrics  
    def sing_me_a_song(self):  
        for line in self.lyrics:  
            print(line)
```

bluf (jue)

COCKTAIL BAR

Write a class *Cocktail* that describes a cocktail.

The class must have:

- three variables (the basic ingredients)
- Constructor that prints the message 'Your cocktail is ready!'
- Destructor that prints the message 'You ran out of cocktail !'
- A function named `add_ingredient` that takes 2 parameters: the ingredient and the quantity(ml) of that ingredient to be added.



SOLUTION

```
class Cocktail:
    def __init__(self, vodka, whiskey, gin):
        self.vod = vodka
        self.whis = whiskey
        self.g = gin
        print("Your cocktail is ready!")
    def __del__(self):
        print("You ran out of Cocktail :( ")
    def add_ingredient(self, name, ml):
        self.ingredient = name
        self.quantity = ml
```


MORE COCKTAILS....

Use the class of the previous exercise and write a new program that “makes” as many cocktails as you want...

The program asks the user:

- the quantity of vodka, whiskey, gin he wants in the cocktail
- if he wants to add any other ingredient and the quantity of that
- it prints “Your Cocktail is ready!”
- asks the user if he wants another cocktail and repeats from the start

SOLUTION

```
class Cocktail:
    def __init__(self, vodka, whiskey, gin):
        self.vod = vodka
        self.whis = whiskey
        self.g = gin
        print("Your cocktail is ready!")
    def __del__(self):
        print("You ran out of Cocktail :( ")
    def add_ingredient(self, name, ml):
        self.ingedient = name
        self.quantity = ml

def main():
    print("Welcome to the Cocktail Bar!")
    ch = input("Do you want a cocktail? Press y for YES and n for NO")
    while(ch == "y" or ch == "Y"):
        vodka_ml = input("Give quantity of vodka")
        whiskey_ml = input("Give quantity of whiskey")
        gin_ml = input("Give quantity of gin")
        cockt = Cocktail(vodka_ml, whiskey_ml, gin_ml)
        d = input("Do you want any other ingredient? Press y for Yes, n for No")
        if(d == "y" or d == "Y"):
            extra_ingr = input("Name the extra ingredient you want to add")
            extra_ingr_ml = input("Give quantity of the extra ingredient")
            cockt.add_ingredient(extra_ingr, extra_ingr_ml)
        print("Your cocktail is ready!!!")
        ch = input("Do you want a cocktail? Press y for YES and n for No ")
```

main()