Python for early children

Getting started

laurent

# functions definitions

Let's define the verb toburpee as follows:

1. stand like a soldier
2. hit you stomack and brace your abs
3. do the plank
4. bring feets between your hands & jump

## Is this python code ok?

def to\_burpee():  
 to\_plank()  
 to\_stand()  
 to\_brace()  
 to\_plank()  
 to\_jump()

## Is this python code better?

def to\_burpee():  
 to\_stand()  
 to\_brace()  
 to\_plank()  
 to\_jump()

## Let's improve it even more!

def to\_stand():  
 pass  
  
def to\_brace():  
 pass  
  
def to\_plank():  
 pass  
  
def to\_jump():  
 pass  
  
def to\_burpee():  
 to\_stand()  
 to\_brace()  
 to\_plank()  
 to\_jump()

# games with functions

# Be lazy and stay DRY!

We don't want you to be lazy, but you should not waste time and resources writing the same instructions again and again. Let's look at the following blocks below. Can you see that some of them are almost identical?

## Look below, that's not very DRY!

Let us teach you how to prepare a banana sandwich. First you should prepare the following:

* a knife
* a jar of peanut butter
* a jar of banana jelly

OK, let's start: 1- Take a slice of bread 2- Put peanut butter on that slice 3- Take a second slice of bread 4- Put banana on that slice

Let us teach you how to prepare a strawberry sandwich. First you should prepare the following:

* a knife
* a jar of peanut butter
* a jar of strawberry jelly

OK, let's start: 1- Take a slice of bread 2- Put peanut butter on that slice 3- Take a second slice of bread 4- Put strawberry on that slice

My dear robot, Let me explain what you should do whenever you want to take the taxi to Big-C:

* hail a taxi
* tell him you want to go to Big-C
* agree about the price
* sit in the car and let yourself drive
* pay the agreed amount
* get out of the car, you are in Big-C

Let us teach you how to prepare a orange sandwich. First you should prepare the following:

* a knife
* a jar of peanut butter
* a jar of orange jelly

OK, let's start: 1- Take a slice of bread 2- Put peanut butter on that slice 3- Take a second slice of bread 4- Put orange on that slice

My dear robot, Let me explain what you should do whenever you want to take the taxi to Central Festival:

* hail a taxi
* tell him you want to go to Central Festival
* agree about the price
* sit in the car and let yourself drive
* pay the agreed amount
* get out of the car, you are in Central Festival

My dear robot, Let me explain what you should do whenever you want to take the taxi to school:

* hail a taxi
* tell him you want to go to school
* agree about the price
* sit in the car and let yourself drive
* pay the agreed amount
* get out of the car, you are in school

Let us teach you how to prepare a nutella sandwich. First you should prepare the following:

* a knife
* a jar of peanut butter
* a jar of nutella jelly

OK, let's start: 1- Take a slice of bread 2- Put peanut butter on that slice 3- Take a second slice of bread 4- Put nutella on that slice

## Let's get DRY!

Let us teach you how to prepare a NameOfTheFruitYouWantHere sandwich. First you should prepare the following:

* a knife
* a jar of peanut butter
* a jar of NameOfTheFruitYouWantHere jelly

OK, let's start: 1- Take a slice of bread 2- Put peanut butter on that slice 3- Take a second slice of bread 4- Put NameOfTheFruitYouWantHere on that slice

My dear robot, Let me explain what you should do whenever you want to take the taxi to YourDestinationHere:

* hail a taxi
* tell him you want to go to YourDestinationHere
* agree about the price
* sit in the car and let yourself drive
* pay the agreed amount
* get out of the car, you are in YourDestinationHere

# Find bugs!

#1 matching quotations  
print("bob')

fs  
#2 matching parens  
best\_friend = 'bob'  
print(best\_friend  
#3 matching everything  
best\_friend = 'bob'  
print('bob  
#4 consistent variables names  
  
my\_best\_friend\_now\_is = 'matoom'  
my\_best\_friend\_now\_is = 'jasmine'  
print(my\_best\_friend-now-is)  
#5 for loop. debug then execute!  
for step in range(3):  
 print('I love jumping!)  
#6 for loop (debug then execute)  
for step in range(5):  
 jasmine.burpee()  
 matoom.burpee()  
#6 while loop: avoid infinite iteration  
while 3 > 2:  
 jasmine.burpee()  
  
#7 while loop: avoid infinite iteration  
while True:  
 matoom.run()  
#8 while loop: debug and explain  
laurent.energy = 10  
while True:  
 laurent.burpee(  
 laurent.run\_lap()  
 laurent.energy -= 1  
 if laurent.energy <6 :::  
 break  
  
#9 define function  
def say\_hi\_in\_french():  
 print("bonjour)  
  
#10  
deFINE say\_hi\_in\_german():  
 print("guten tag")  
  
#11  
def say\_hi\_in\_korean()  
print("Anyonghaseyo")  
  
#12  
definition say\_hi\_in\_spanish :  
 print("hola")

## Counters: variables with constant incrementation

counter = 0  
counter += 1 #add 1 to counter, i.e. increment by 1  
print(counter) ---> 1  
counter += 1 #add 1 to counter, i.e. increment by 1  
print(counter) ---> 2  
  
laurent.energy = 10  
laurent.run\_one\_lap()  
laurent.burpee(3)  
laurent.energy -= 1 # deduct 1 to laurent.energy

### games

Pick the code you like most :)

matoom.points = 0  
print(matoom.points)  
for step in range(3):  
 matoom.run\_lap()  
 matoom.burpee()  
 matoom.points += 1  
  
matoom.points = 0  
print(matoom.points)  
for step in range(3):  
 matoom.run\_lap()  
 matoom.burpee()  
 matoom.points += 1

jasmine.points =  
print(matoom.points)  
for step in range(4):  
 jasmine.run\_lap()  
 jasmine.burpee()  
 jasmine.points += 1  
  
jasmine.points = 0  
print(matoom.points)  
for step in range(3):  
 matoom.run\_lap()  
 matoom.burpee()  
 matoom.points += 1