# ejercicio1_IA

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## 1 Python exercises, practice

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### 1.1 1 exercise

print hello world

[2]:
```
print("hello world")
```

```
hello world
```

### 1.2 2 exercise

Let's create a variable with the name variable and assign it the value "hello world".

### 1.3 3 exercise

Print the type of variable

[3]:
```
variable="hello world"
type(variable)
```

[3]:
```
str
```

### 1.4 4 exercise

Let's remove the word " world" from variable

[7]:
```
variable="hello world"
print(variable[0:5])
```

```
hello
```

### 1.5 2 exercise

Let's make a function which receives a list of number from 1 to 20 and prints only the number that are odd.

[301]:
```
def onlyOdd():
    list1=[]
    for i in range(20):
        if i%2!=0:
            list1.append(i)
    return list1

print(onlyOdd())
```

```
[1, 3, 5, 7, 9, 11, 13, 15, 17, 19]
```

### 1.6 3 exercise

Let's make a method in a Python file which receives two parameters:
A list of integers
An exponent number
$b^n = b \times \cdots \times b$
The method allows us to calculate the exponentiation of each number in the list.
We must import the file and use it to call the method

[266]:
```
def exponents(lista, expo):
    list1=lista
    for i in range(len(lista)):
        for j in range(expo-1):
            list1[i]=list1[i]*list1[i]    #para exponentes>0
    return list1
lista=[2,4,6,22,7,8,4]
print(exponents(lista, 2))
```

```
[4, 16, 36, 484, 49, 64, 16]
```

### 1.7 4 exercise

The idea is to do a dictionary diccionario with the next keys and values:
variableUno: [1,2,3,4]
variableDos: ["1","a","?"]

[145]:
```
lista1=[1,2,3,4]
lista2=["1","a","?"]
diccionario = {"variableUno":lista1, "variableDos":lista2}
print(diccionario['variableUno'])
```

```
[1, 2, 3, 4]
```

### 1.8 5 exercise

Change the first letter of "Spam" to "z"

[147]:
```
palabra="Spam"
print(palabra.replace("S", "Z"))
```

```
Zpam
```

### 1.9 6 exercise

let's do a program which receives some parameters in order to calculate the perimeter of a rectangle.

$$p = 2x + 2y$$

[148]:
```
def perimetro(x,y):
    per=(2*x)+(2*y)
    return per
largo=5
ancho=3
print(perimetro(largo, ancho))
```

```
16
```

### 1.10 7 exercise

Create a class that saves the name of a person, his height in meters and weights in kilograms. This class must have a operation which calculate the Body mass index (BMI). Define a list of 5 persons and print their BMI.

[237]:
```
class person(object):
    def __init__(self,nombre,altura,peso):
        self.nombre=nombre
        self.altura=altura
        self.peso=peso

    def getNombre(self):
        return self.nombre

    def getAltura(self):
        return self.altura

    def getPeso(self):
        return self.peso

    def calculaBmi(person):
        masa=person.getPeso()/person.getAltura()
        return masa


    person1=person("Pedro", 1.70, 68)
    person2=person("María", 1.75, 71)
    person3=person("Fernando", 1.69, 66)
```

```
    person4=person("Cristina", 1.57, 69)
    person5=person("Sofia", 1.68, 65)

    for i in range(5):
        print(calculaBmi(lista[i]))
```

```
40.0
38.857142857142854
40.23668639053255
43.31210191082803
40.476190476190474
```

### 1.11 8 exercise

make a program that prints the numbers from 1 to 100 If the number is divisible by 2 then print "whiz" if the number is divisible by 3 then print "bang"

[216]:
```
for i in range(100):
    if i%2==0:
        print("whiz")

    elif i%3==0:
            print("bang")
    else:
        print(i)
```

```
whiz
1
whiz
bang
whiz
5
whiz
7
whiz
bang
whiz
11
whiz
13
whiz
bang
whiz
17
whiz
```

```
19
whiz
bang
whiz
23
whiz
25
whiz
bang
whiz
29
whiz
31
whiz
bang
whiz
35
whiz
37
whiz
bang
whiz
41
whiz
43
whiz
bang
whiz
47
whiz
49
whiz
bang
whiz
53
whiz
55
whiz
bang
whiz
59
whiz
61
whiz
bang
whiz
65
whiz
```

```
67
whiz
bang
whiz
71
whiz
73
whiz
bang
whiz
77
whiz
79
whiz
bang
whiz
83
whiz
85
whiz
bang
whiz
89
whiz
91
whiz
bang
whiz
95
whiz
97
whiz
bang
```