



## Exercise 1.

1.1

```
print(7 **4)
```

```
↳ 2401
```

1.2

```
s = 'Hi there Sam!'
a= s.split()
a[2] = 'Dad'
a
```

```
↳ ['Hi', 'there', 'Dad']
```

1.3

```
planet = 'Earth'
diameter = 12742
print('The diameter of {} is {} kilometers'.format(planet,diameter))
```

```
↳ The diameter of Earth is 12742 kilometers
```

1.4

```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
lst[3][1][2]
```

```
↳ ['hello']
```

1.5

```
d = {'k1':[1,2,3,{ 'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
d.get('k1')[3].get('tricky')[3].get('target')[3]
```

```
↳ 'hello'
```

1.6

```
tup = (1,2)
tup[1] = 3
```

```
↳
```

```

-----
TypeError                                Traceback (most recent call last)
<ipython-input-1-b379bc43e3be> in <module>()
      1 tup = (1,2)
----> 2 tup[1]=3

```

tuples are immutable objects in that their values cannot be changed once they have been created.

1.7

```

def grab_email(email):
    return email.split('@')[1]

print(grab_email('super_user@ee.pw.edu.pl')).

```

```

☞ ee.pw.edu.pl

```

1.8

```

def check_car(input):
    if 'car' in input.lower():
        return True
check_car('Car is in this sentence')

```

```

☞ True

```

1.9

```

def countCar(input):
    return input.lower().count('car')

countCar('This car runs faster than the other car dude!')

```

```

☞ 2

```

1.10

```

seq = ['soup', 'dog', 'slad', 'cat', 'great']
list(filter(lambda x : x.startswith('s'), seq))

```

```

☞ ['soup', 'slad']

```

1.11

```

def caught_speeding(speed, is_birthday):
    additional_limit = 0
    if is_birthday is True:
        additional_limit = 5
    if speed <= 60 + additional_limit:
        return 'No ticket'
    elif 60 + additional_limit <= speed <= 80 + additional_limit:
        return 'Small Ticket'
    elif speed >= 80 + additional_limit:
        return 'Big Ticket'

```

```
print(caught_speeding(59,False))
print(caught_speeding(61,True))
print(caught_speeding(61,False))
print(caught_speeding(64,True))
print(caught_speeding(70,False))
print(caught_speeding(81,True))
print(caught_speeding(81,False))
```

```
☐→ No ticket
    No ticket
    Small Ticket
    No ticket
    Small Ticket
    Small Ticket
    Big Ticket
```