Exercises

Answer the question below, then and check your responses using the **Python REPL**.

1) What's the type of each of these expressions?

a) `>>> 1e-3`
b) `>>> 2`
c) `>>> 3.`
d) `>>> 5 > 2`

2) The string definition below are valid? Mark as True of False.

a) `>>> "String\'s"` ( )
b) `>>> "HelloWorld'` ( )
c) `>>> 'This is a "quote"'` ( )
d) `>>> 'That's fine!'` ( )

3) What are the results of the operations?

a) `>>> -3 * 1`
b) `>>> 5 % 3`
c) `>>> 2 + 3 * 3`
d) `>>> 1e1 + 1.5`
e) `>>> True + 3`
f) `>>> 3 ** False`
g) `>>> type(3 / 3)`
h) `>>> type(3. + 2)`
i) `>>> type(False + True)`
j) `>>> '123' * 2`
k) `>>> 'Hello' + "World"`
l) `>>> 2 – 2 / 4`
m) `>>> (2 - 2) / 4`
n) `>>> -1e1 + 8 // (1. + 1)`
o) `>>> 2 ** 2 ** 4`
p) `>>> 3 ** False`
q) `>>> 3 % 5 + (2 ** (6 / 3))`

4) What are the results of the sequence of commands?

a)
```
>>> a = b = 3
>>> c, d = 1, 2
>>> a + c == d * b - 2
```

b)
```
>>> s = "a"
>>> s *= 3
>>> s + "b"
```

c)
```
>>> a = 0
>>> a != 0 and True
```

d)
```
>>> b = c = 42
>>> b /= 2
>>> b != 21 or c/b == 2
```

e)
```
>>> b = False
>>> c = not b
>>> ((not c) and b) or
True
```

f)
```
>>> a = [1]
>>> a * 11
```

g)
```
>>> a = [1, 2]
>>> b = [3, 4]
>>> a + b
```

5) Consider the list `li = [42, 1, 2, 3, 'A', 'B']`, what the result of each alternative?

a) `>>> li[3]`
b) `>>> li[-2]`
c) `>>> li[:-3]`
d) `>>> li[-5:]`

6) Which of the alternatives throws an error when executed?

a)
```
>>> a = (1,2,3)
>>> a[3]
```

b)
```
>>> b = [5, 6, 7, 8]
>>> b[-5]
```

c)
```
>>> a = (1, 2)
>>> b = (3, 4)
>>> c = a / b
```

d)
```
>>> a = (1,2,3)
>>> b = (1,2,3)
>>> a + b
```

e)
```
>>> a = (1,2,3)
>>> b = (1,2,3)
>>> a * b
```

7) Write a script to solve the problem: consider a list of size n, if n is odd the script shows the value in the middle of the list, if n is even, it shows the two values at the center of the list.
Examples:
list1 = [1,5,11,12,16] -> 11
list2 = [1,5,11,12] -> [5, 11]