

Task 2

1. What are the direct 2 methods to construct a tuple that has only a single item? How many ways are there to construct a list with a single item?
2. How could you create w from x so that w can be changed without affecting x (x is a list) ?
3. Initialize a list containing 4 , 3.1415 , 1.0 , 2+4j , 'Hello' , 'World'. How could you:
 - i>. Delete 1.0 if you knew its position? What if you didn't know its position?
 - ii>. How can the list [1.0, 2+4j, 'Hello'] be added to the existing list?
 - iii>. How can the list be reversed?
 - iv>. In the extended list, how can you count the occurrence of 'Hello'?
- 4>.

$$z = \begin{bmatrix} 1 & 2 & 1 & 2 \\ 3 & 4 & 3 & 4 \\ 1 & 2 & 1 & 2 \end{bmatrix}$$

$$y = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

How can you slice y from z?

5. Show that `logspace(0,2,21)` can be constructed using `linspace` and 10 (and `**`). Similarly, show how `linspace(2,10,51)` can be constructed with `logspace` and `log10`.

6. `cumsum` computes the cumulative sum while `diff` computes the difference. Is `diff(cumsum(x))` the same as `x`? If not, how can a small modification be made to the this statement to recover `x`?

7. Compute the exp of, `y = [ln0.5, ln1 , lne]`

Note: You should use `log` and the constant `numpy.e` to construct `y`.

8. Concatenate each of the following with `r_`.

1,2,3,4

0,2.5,5,7.5,10

-5,-3,-1