

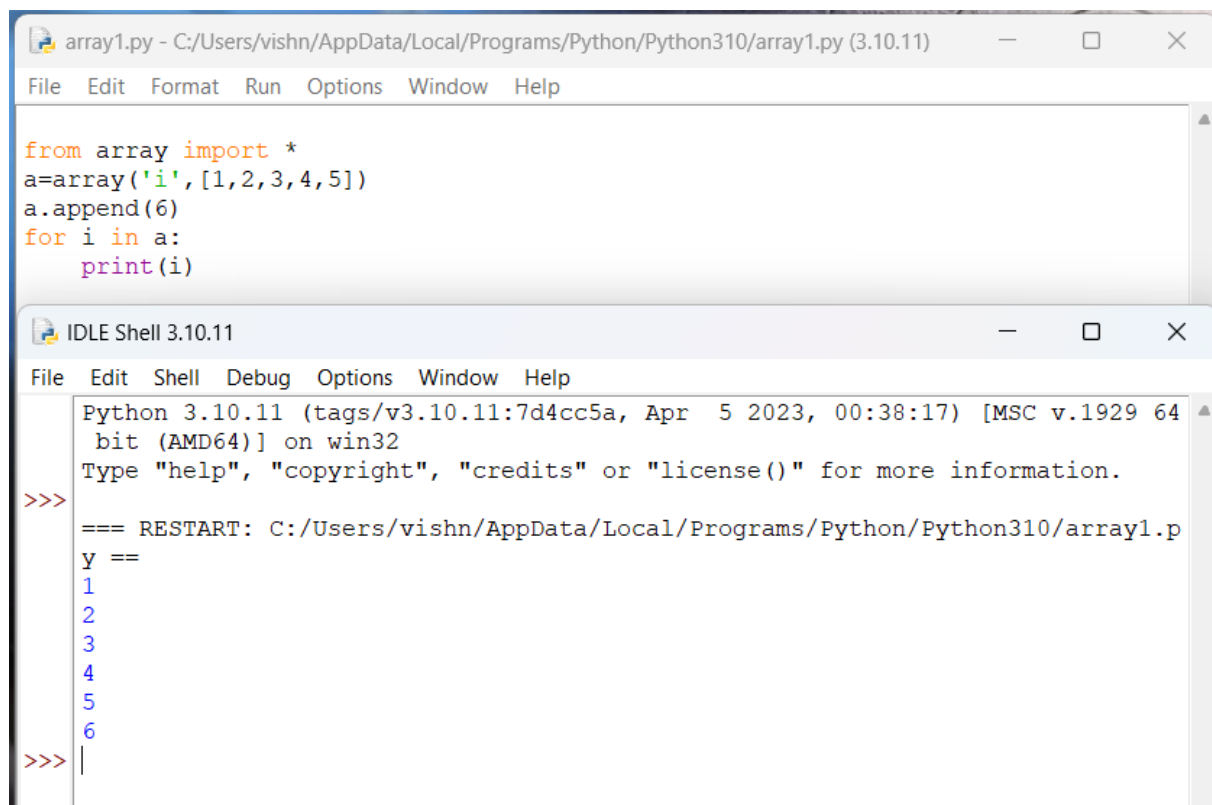
## Extended work

NAME: Vishnu Asok

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A = array('i', [1, 2, 3, 4, 5])

1. Write a python program to add one number into the following array



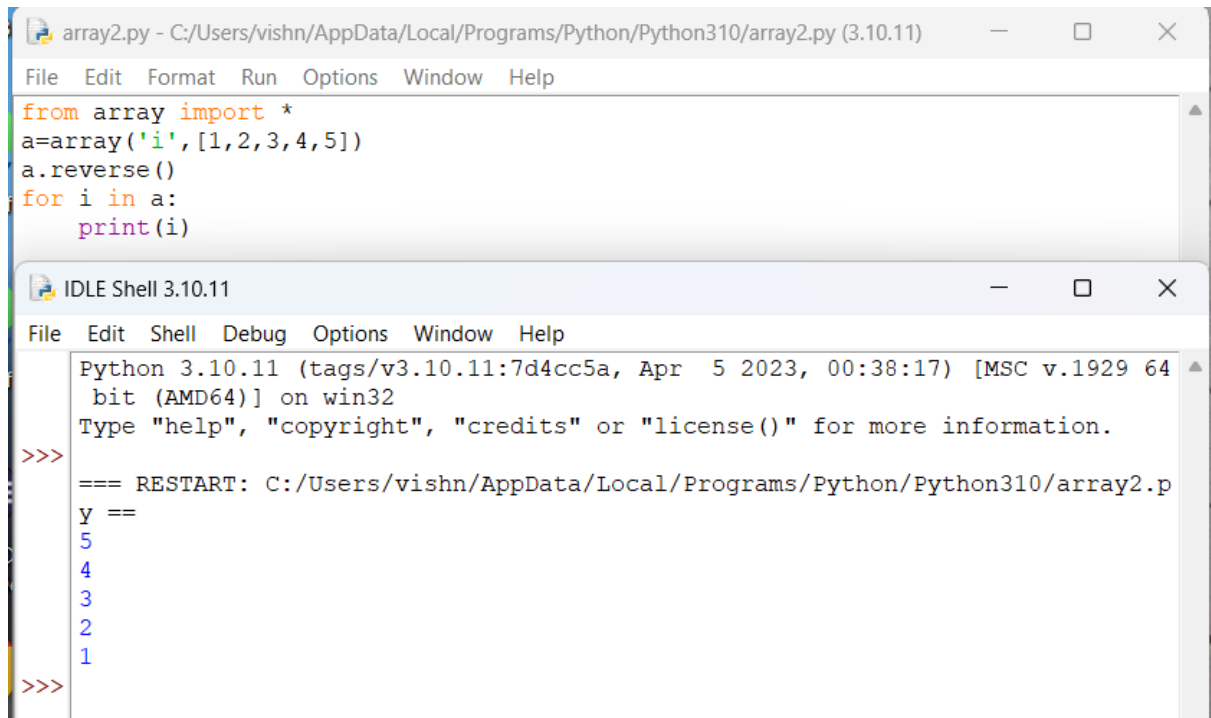
The screenshot shows a Python IDE window titled 'array1.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/array1.py (3.10.11)'. The code in the editor is:

```
from array import *
a=array('i', [1,2,3,4,5])
a.append(6)
for i in a:
    print(i)
```

Below the editor is the 'IDLE Shell 3.10.11' window. It displays the following output:

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64
bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array1.p
y ==
1
2
3
4
5
6
>>> |
```

2. Write a python program to reverse the sequence of the items in the arrays



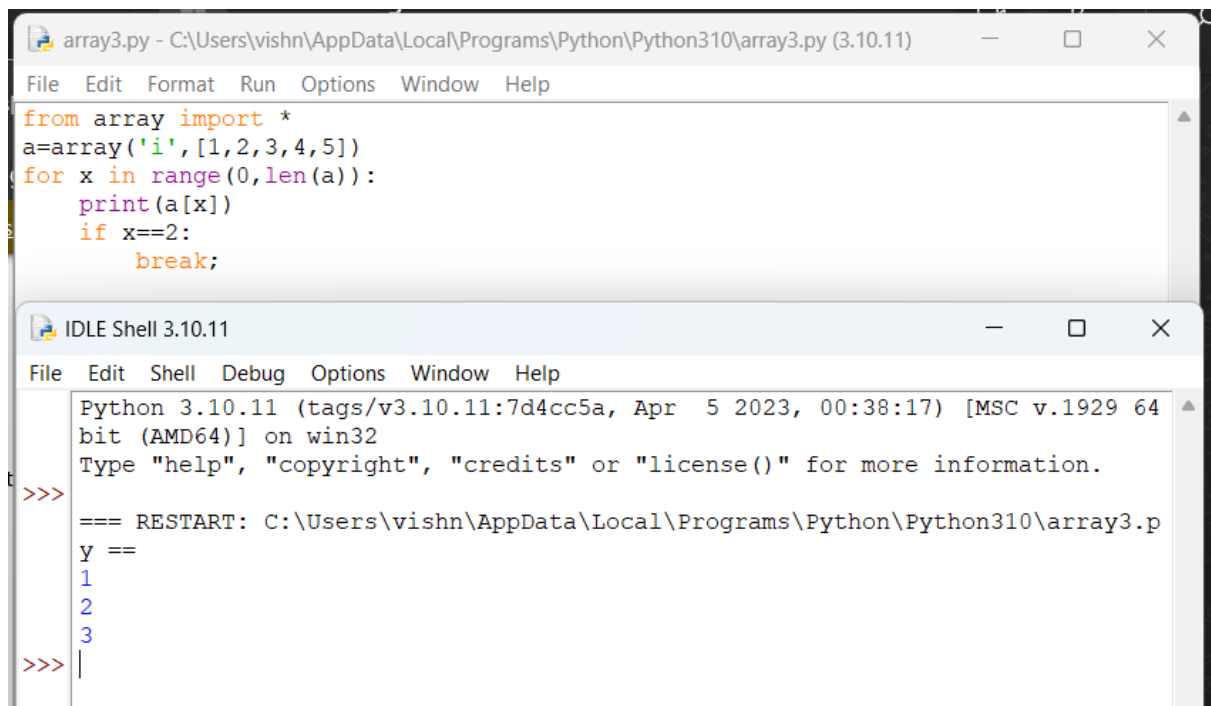
The screenshot shows two windows from the Python IDLE environment. The top window, titled 'array2.py', contains the following code:

```
from array import *
a=array('i',[1,2,3,4,5])
a.reverse()
for i in a:
    print(i)
```

The bottom window, titled 'IDLE Shell 3.10.11', shows the execution output after pressing F5. It displays the Python version and architecture, followed by the output of the program:

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64
bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array2.p
y ==
5
4
3
2
1
>>>
```

3. Write a python program to access the last three items in the arrays



The screenshot shows two windows from the Python IDLE environment. The top window, titled 'array3.py', contains the following code:

```
from array import *
a=array('i',[1,2,3,4,5])
for x in range(0,len(a)):
    print(a[x])
    if x==2:
        break;
```

The bottom window, titled 'IDLE Shell 3.10.11', shows the execution output after pressing F5. It displays the Python version and architecture, followed by the output of the program:

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64
bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\vishn\AppData\Local\Programs\Python\Python310\array3.p
y ==
1
2
3
>>> |
```

4. Write a python program to remove the specified item from the initial arrays(remove 2)

The screenshot shows a Python IDLE window titled 'array4.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/array4.py (3.10.11)'. The code in the editor is:

```
from array import *
a=array('i',[1,2,3,4,5,6])
a.remove(2)
for x in a:
    print(x)
```

Below the editor is the 'IDLE Shell 3.10.11' window. It displays the Python version and architecture: 'Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32'. It also shows the command prompt history, including a restart command and the output of the script:

```
>>>
=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array4.p
y ==
1
3
4
5
6
>>>
```

5. Write a python program to obtain the length in bytes of one arrays

The screenshot shows a Python IDLE window titled 'array5.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/array5.py (3.10.11)'. The code in the editor is:

```
from array import *
a=array('i',[1,2,3,4,5,6])
print("The initial array: %s"%(a))
print("The length in bytes of one array item: %s"%(a.itemsize))
```

Below the editor is the 'IDLE Shell 3.10.11' window. It displays the Python version and architecture: 'Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32'. It also shows the command prompt history, including a restart command and the output of the script:

```
>>>
=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array5.
py ==
The initial array: array('i', [1, 2, 3, 4, 5, 6])
The length in bytes of one array item: 4
>>>
```

6. Write a python program to check the quantity of occurrences of a specified values in the array  
`a = array('b', [0, 1, 2, 3, 4, 5, 7, 8, 5, 9, 10, 5])`

```
array6.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/array6.py (3.10.11)
File Edit Format Run Options Window Help

from array import *
a=array('b',[0,1,2,3,4,5,7,8,5,9,10,5])
i=int(input("enter the number to check the occurence of number:"))
print("Number of occurence of the number %s in the array: %s"%(i,a.count(i)))

IDLE Shell 3.10.11
File Edit Shell Debug Options Window Help

Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array6.py ==
enter the number to check the occurence of number:5
Number of occurence of the number 5 in the array: 3
>>>
```

7. Write a python program to remove the first occurrence of number 1 in the array

a = array('b', [0, 1, 2, 3, 4, 5, 2, 1, 5])

```
array7.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/array7.py (3.10.11)
File Edit Format Run Options Window Help

from array import *
a=array('b',[0,1,2,3,4,5,2,1,5])
print("array before removing first occurence of 1: %s"%(a))
a.remove(1)
print("array after removing first occurence of 1: %s"%(a))

IDLE Shell 3.10.11
File Edit Shell Debug Options Window Help

Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array7.py ==
array before removing first occurence of 1: array('b', [0, 1, 2, 3, 4, 5, 2, 1, 5])
array after removing first occurence of 1: None
>>>

=== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/array7.py ==
array before removing first occurence of 1: array('b', [0, 1, 2, 3, 4, 5, 2, 1, 5])
array after removing first occurence of 1: array('b', [0, 2, 3, 4, 5, 2, 1, 5])
>>>
```

8. Write a python program to read the first two lines of a file: a.txt as provided in the following output.

```
fh1.py - C:\Users\vishn\AppData\Local\Programs\Python\Python310\fh1.py (3.10.11)
File Edit Format Run Options Window Help

f=open("a.txt","a")
print(f.readline())
print(f.readline())

IDLE Shell 3.10.11
File Edit Shell Debug Options Window Help

Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
==== RESTART: C:\Users\vishn\AppData\Local\Programs\Python\Python310\fh1.py ====
Steganography is the concept of concealing information or data by embedding it as secret data into various digital media
s in order to achieve higher security

Many Steganographic algorithms are proposed for this

>>> |
```

9. Write a python program to add text to a file and display the text

```
fh2.py - C:\Users\vishn\AppData\Local\Programs\Python\Python310\fh2.py (3.10.11)
File Edit Format Run Options Window Help

f = open("a.txt", "a")
f.write("This text is appended now.")
f.close()
f=open("a.txt","r")
print(f.read())

IDLE Shell 3.10.11
File Edit Shell Debug Options Window Help

Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
==== RESTART: C:\Users\vishn\AppData\Local\Programs\Python\Python310\fh2.py ====
Steganography is the concept of concealing information or data by embedding it as secret data into various digital medias in order to achieve higher security
Many Steganographic algorithms are proposed for this
The ability of human eyes as well as invisibility remain the most important and prominent factor for the security and protection
The most commonly used security measure of data hiding within images (Image Steganography) is the Least Significant Bit (LSB) systemThis text is appended now.

>>>
```

10. Write a python program to read the last n lines of file, a.txt.

```
fh3.py - C:\Users\vishn\AppData\Local\Programs\Python\Python310\fh3.py (3.10.11)
File Edit Format Run Options Window Help

f=open("a.txt","r")
for x in (f.readlines() [-2:]):
    print(x)

IDLE Shell 3.10.11
File Edit Shell Debug Options Window Help

Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
==== RESTART: C:\Users\vishn\AppData\Local\Programs\Python\Python310\fh3.py ====
The ability of human eyes as well as invisibility remain the most important and prominent factor for the security and protection

The most commonly used security measure of data hiding within images (Image Steganography) is the Least Significant Bit (LSB) systemThis text is appended now.

>>>
```

11. Write a python program to read the whole file, a.txt.

The screenshot shows a Python IDE window titled 'fh4.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/fh4.py (3.10.11)'. The code in the editor is:

```
f=open("a.txt","r")
print(f.read())
```

Below the editor is the 'IDLE Shell 3.10.11' window. It displays the output of the program, which is the content of 'a.txt':

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
==== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/fh4.py ====
Steganography is the concept of concealing information or data by embedding it as secret data into various digital medias in order to achieve higher security
Many Steganographic algorithms are proposed for this
The ability of human eyes as well as invisibility remain the most important and prominent factor for the security and protection
The most commonly used security measure of data hiding within images (Image Steganography) is the Least Significant Bit (LSB) systemThis text is appended now
>>>
```

12. Write a python program to read a file, a.txt line by line and store it into an array..

The screenshot shows a Python IDE window titled 'fh5.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/fh5.py (3.10.11)'. The code in the editor is:

```
array=[]
file=open("a.txt","r")
for x in file:
    array.append(x)
print(array)
```

Below the editor is the 'IDLE Shell 3.10.11' window. It displays the output of the program, which is the content of 'a.txt' stored in a list:

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
==== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/fh5.py ====
['Steganography is the concept of concealing information or data by embedding it as secret data into various digital medias in order to achieve higher security\n', 'Many Steganographic algorithms are proposed for this\n', 'The ability of human eyes as well as invisibility remain the most important and prominent factor for the security and protection\n', 'The most commonly used security measure of data hiding within images (Image Steganography) is the Least Significant Bit (LSB) systemThis text is appended now.']
>>>
```

13. Write a python program to test whether a specified file is exist.

The screenshot shows a Python IDE window titled 'fh6.py - C:/Users/vishn/AppData/Local/Programs/Python/Python310/fh6.py (3.10.11)'. The code in the editor is:

```
import os
if os.path.exists("a.txt"):
    print("the file exists")
else:
    print("the file does not exist")
```

Below the editor is the 'IDLE Shell 3.10.11' window. It displays the output of the program, which is 'the file exists' because 'a.txt' exists:

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
==== RESTART: C:/Users/vishn/AppData/Local/Programs/Python/Python310/fh6.py ====
the file exists
>>>
```