In [ ]: ▶
```python
'''
Text

Binary
'''
```

In [ ]: ▶
```python
f = open('d:/myfile.txt','w')
line1 = 'Hello Python\n'
line2 = 'C++\n'
line3 = str(52)
f.write(line1)
f.write(line2)
f.write(line3)
print(f.name)    # d:/myfile.txt
print(f.mode)    # w

f.close()
```

In [ ]: ▶
```python
with open('d:/myfile2.txt','w') as myfile:
    line1 = 'Hello Python\n'
    line2 = 'C++\n'
    myfile.write(line1)
    myfile.write(line2)
```

In [ ]: ▶
```python
try :
    f = open('d:/myfile.txt','r')
except FileNotFoundError :
    print('error')
```

In [ ]: ▶
```python
with open('d:/myfile2.txt','r') as f:
    data = f.readlines()
    print(data)              # ['Hello Python\n', 'C++\n']
```

In [ ]: ▶
```python
with open('d:/myfile2.txt','r') as f:
    print(f.readline())          # Hello Python
```

In [ ]: ▶
```python
with open('d:/myfile2.txt','r') as f:
    print(f.read(3))                  # Hel
    print(f.read(5))                  # lo Py
```

In [ ]: ▶
```python
with open('d:/myfile2.txt','r') as f:
    for line in f:
        print(line, end='')
```

In [ ]: ▶
```python
with open('d:/myfile2.txt','r') as f:
    x = f.read()
    print(x)
```

In [ ]:
```python
import os
n = 'd:/myfile2.txt'
print(os.path.exists(n))   # True
os.remove(n)
```

In [ ]:
```python
name1 = 'd:/myfile.txt'
name2 = 'd:/a.txt'

with open(name1,'r') as f1 , open(name2, 'w') as f2:
    for line in f1:
        f2.write(line)
```

In [ ]:
```python
name1 = 'd:/x.txt'
name2 = 'd:/y.txt'
name3 = 'd:/z.txt'

with open(name1, 'w') as f1:
    f1.write('ali\n')
    f1.write('sara\n')

with open(name2, 'w') as f2:
    f2.write('taha\n')
    f2.write('omid\n')
    f2.write('mahsa\n')

with open(name1) as f1 , open(name2) as f2:
    data1 = f1.read()
    data2 = f2.read()

with open(name3,'w')  as f3:
    f3.write(data1 + data2)
```

In [ ]:
```python
lst = ['yes','no','no','yes','yes','yes','no']

name = 'd:/answer.txt'

with open(name, 'w') as f:
    for i in lst:
        f.write(i)
        f.write('\n')
```

In [ ]:
```python
c1 = 0
c2 = 0

with open(name, 'r')  as f:
    lst = f.readlines()
    for i in lst:
        x = i.strip()
        if x == 'yes':
            c1 += 1
        else :
            c2 += 1
print(c1)    # 4
print(c2)    # 3


d = dict()
with open(name) as f:
    for line in f:
        w = line.split()
        for i in w:
            d[i] = d.get(i, 0) + 1
print(d)                        # {'yes': 4, 'no': 3}
```

In [ ]:
```python
def count(filename):
    try:
        with open(filename) as f:
            x = f.read()
    except FileNotFoundError as e:
        print(e)
    else:
        c = len(x.split())
        print(f'{filename} : {c}')


count('d:/x.txt')        # d:/x.txt : 2
count('d:/h.txt')        # No such file or directory:
count('d:/answer.txt')   # d:/answer.txt : 7
```

In [ ]:
```python
def count(filename):
    try:
        with open(filename) as f:
            x = f.read()
    except FileNotFoundError as e:
        print(e)
    else:
        c = len(x.split())
        print(f'{filename} : {c}')

lst = ['d:/x.txt' , 'd:/h.txt' ,'d:/answer.txt' ]
for i in lst:
    count(i)
```

In [ ]:
```python
with open('d:/test.txt' , 'w') as myfile:
    myfile.write('ABCDEF')

with open('d:/test.txt', 'r')  as f:
    print(f.tell())    # 0
    print(f.read(1))   # A
    f.seek(3)
    print(f.read(2))   # DE
    print(f.tell())    # 5
    print(f.read(1))   # F
```

In [ ]:
```python
with open('d:/test.txt','rb' )  as f:
    print(f.tell())    # 0
    print(f.read(1))   # b 'A'
    f.seek(3)
    print(f.read(2))   # b 'DE'
    print(f.tell())    # 5
    print(f.read(1))   # b 'F'
    f.seek(-5,2)
    print(f.read(1))   # b'B'
```

In [ ]:
```python
line1 = 'ali\n'
line2 = 'sara\n'
lst = [line1, line2]

with open('d:/g.txt' , 'w') as f:
    f.writelines(lst)
```

In [ ]:
```python
line3 = 'mahsa'

with open('d:/g.txt' , 'a') as f:
    f.write(line3)
```

In [ ]:
```python
x = b'farshid'
print(x)             # b'farshid'
print(x.decode())    # farshid

b = bytes([65, 97])
print(b)             # b'Aa'
print(b.decode())    # Aa


a = bytearray([65, 97])
print(a)             # bytearray(b'Aa')
print(a.decode())    # Aa
```

In [ ]: ▶
```python
data = 'Hello\nPython'
print(data)

b = bytes(data, 'utf-8')
print(b)                      # b'Hello\nPython'

with open('d:/myfilebin.bin', 'wb')  as f:
    print(f.write(b))                        # 12
```

In [ ]: ▶
```python
import json

d = {'k1':'v1' , 'k2':'v2'}

js = json.dumps(d)
print(js)           # {"k1": "v1", "k2": "v2"}

print(json.dumps(d , indent = 4))
'''
{
    "k1": "v1",
    "k2": "v2"
}
'''
print(json.dumps(d , indent = 4 , separators = (';','=')))
'''
{
    "k1"="v1";
    "k2"="v2"
}
'''

with open('d:/j.json', 'w') as f:
    json.dump(d, f)

with open('d:/j.json') as f:
    print(json.load(f))      # {'k1': 'v1', 'k2': 'v2'}
```

In [ ]: ▶
```python
import pickle

with open('d:/p.bin', 'wb') as f:
    pickle.dump(d, f)

with open('d:/p.bin','rb') as f:
    print(pickle.load(f))
```

In [ ]:
```python
import csv
x  = ['Name' , 'Age']
r1 = ['ali',35]
r2 = ['taha',10]
r3 = ['mahsa',40]

with open('d:/a.csv','w') as f:
    w = csv.writer(f)
    w.writerow(x)
    w.writerows([r1,r2,r3])


with open('d:/a.csv', newline = '\n') as f:
    r = csv.reader(f)
    for i in r:
        print('    '.join(i))
'''
Name    Age
ali    35
taha    10
mahsa    40
'''
```

In [ ]:
```python
import pandas as pd

data = pd.read_csv('d:/a.csv')
print(data)

data.to_csv('d:/b.csv',sep=',', index = False)

print('-----')

import glob
print(glob.glob('d:/a*.csv'))
```

دانشگاه شهید مدنی آذربایجان

برنامه نویسی مقدماتی با پایتون

امین گلزاری اسکوئی

۱۴۰۰-۱۴۰۱

Codes and Projects (click here) (https://github.com/Amin-Golzari-Oskouei/Python-Programming-Course-Basic-2021) slides and videos (click here) (https://drive.google.com/drive/folders/1ZsQjBJJ4UAAp9zrGxm3c4qrhnvGBUYHw)