

Day 5

Presented on June 24, 2021

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All resources in one place (Slides, Videos, Books, Scripts etc)
<https://github.com/akifislam/Beginners-Course-on-Python>

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Quick Recap



strip ()

strip() is an inbuilt function in Python programming language that returns a copy of the string with both leading and trailing characters removed (based on the string argument passed).



strip ()

```
letters = "aaaWWWaaa"  
name = " Akif "
```

```
print(name.strip()) #Akif (Space removed from both side)  
print(letters.strip('a')) #WWW  
print(letters.lstrip('a')) #WWWaaa  
print(letters.rstrip('a')) #aaaWWW
```



While ()

.....



While Loop

```
i = 0
while (i < 5):
    i = i + 1
    print("Hi")
```

Note: remember to increment i, or else the loop will continue forever.

#Output

```
Hi (i = 0)
Hi (i = 1)
Hi (i = 2)
Hi (i = 3)
Hi (i = 4)
```



break and **continue**



break & continue

```
while i < 5 :  
    print(i)  
    break
```

```
while i < 5:  
    If (i == 2)  
        continue  
    print(i)
```



$x = x + 10$

$x += 10$

(Both are same)



```
words = “banana”
```

```
for i in words :  
    print(i, end =“ ”)
```

Output : b a n a n a



for ()

.....



```
for i in range (6):  
    print(i)
```

Output : 0 1 2 3 4 5



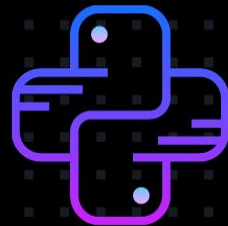
```
for x in range(2, 6):  
    print(x)
```

Output : 2 3 4 5



```
for x in range(1,10,2):  
    print(x)
```

Output : 1 3 5 7 9



`import random`

The random module is a built-in module to generate the pseudo-random variables. It can be used perform some action randomly such as to get a random number, selecting a random elements from a list, shuffle elements randomly, etc.



```
import random
```

```
random.randInt( 1, 1000) # ?
```



Guessing Game

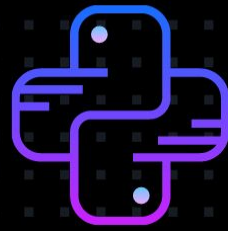
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**How can we write
our own reusable
function?**

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Functions / Methods



```
def sum ( a , b ) :  
    print(a + b )
```

```
def my_function(country = "Norway"):  
    print("I am from " + country)
```




Quiz

June 22, 2021

Md Aminul
Islam

2

7488
8 out of 10

Saniah
Safat

1

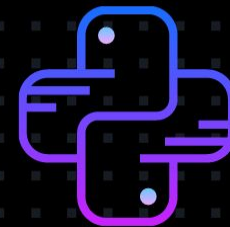
7810
8 out of 10

Rakib
Rahat

3

7006
9 out of 10

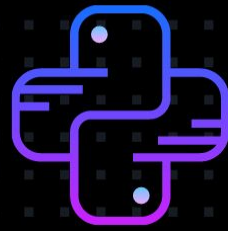
Day 3 Winners



Name	Score	Rank
Saniah Safat	7.810	1
Md Aminul Islam	7.488	2
Rakib Rahat	7.006	3
Alvee	6.854	4
Azmine Amin	6.841	5

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Day 3 (Rank 6th to 10th)



Name	Score	Rank
Rakib Islam	6.594	6
Aminur	6.523	7
Afridi	6.468	8
Mehedi	6.207	9
Fahad Al Islam	5.924	10

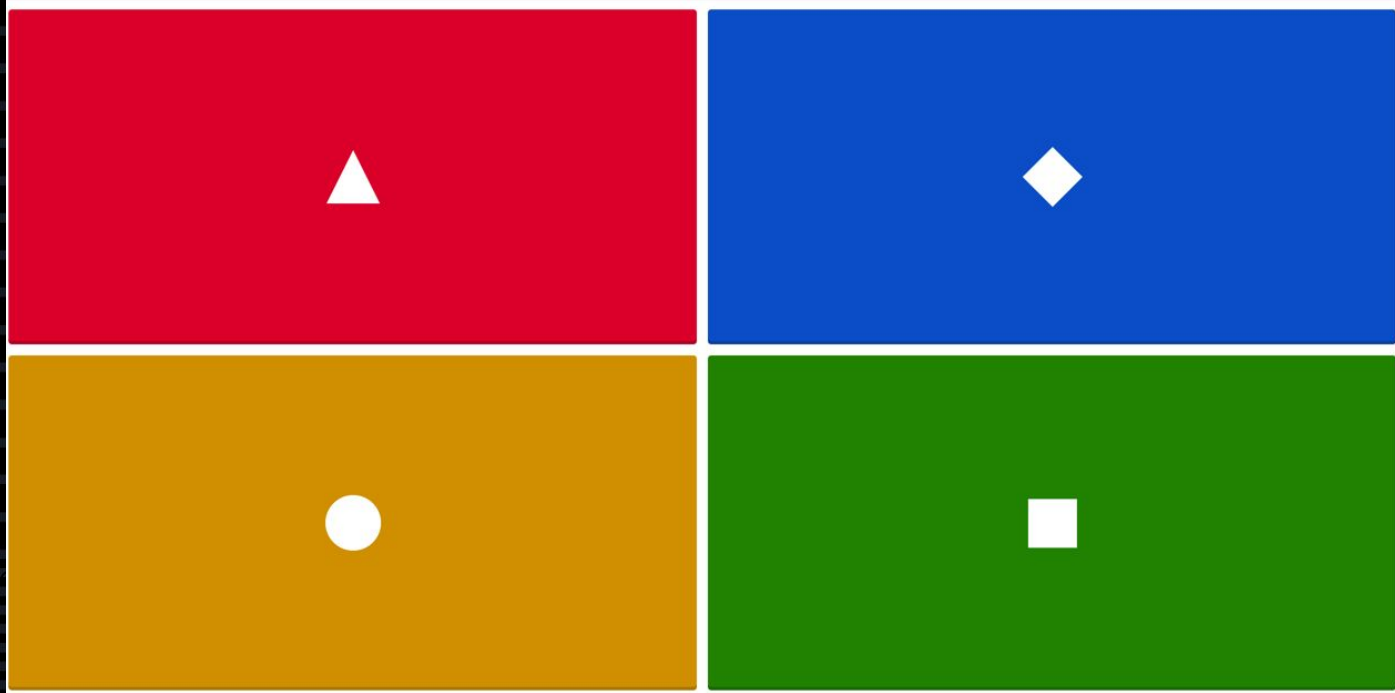
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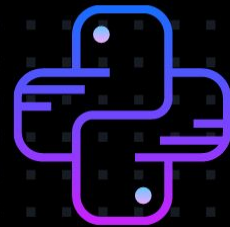
Kahoot!

Game PIN

Enter

Questions will be shown on **Zoom**
You just have to choose the right answer





Disclaimers & Prizes

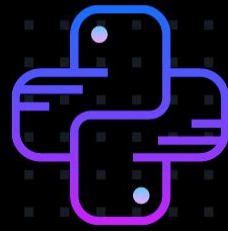
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Day 5

(Last Day)

Return Value from Function



```
def sum (a, b):  
    return a+b
```

```
def sayHi (name = "Akif"):  
    return f"Hi {name}"
```

```
print(sayHi("Rahim")) # Hi Rahim  
print(sayHi()) #Hi Akif
```



try - except - finally

The **try** block lets you test a block of code for errors.

The **except** block lets you handle the error.

The **finally** block lets you execute code, regardless of the result of the try- and except blocks.



try - except - finally

A = 50

B = 0

try :

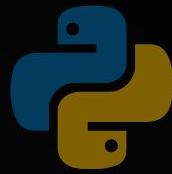
print(A/B)

except:

print("Cannot divide by zero")

finally :

print("End")



Nested For Loop

```
for i in range(1, 5):  
    for j in range (10,15):  
        print(j)
```

- range(5): generates 0,1,2,3,4
- range(1,5): generates 1,2,3,4
- range(1,5,2): generates 1,3



Class Task

What will be the output of this program?

```
for i in range(1,5, 1):  
    for j in range (1,5,1):  
        print(j)
```



Class Task

Correct Answer :

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4



Printing Star Pyramid with for loop

```
n = int(input("Size of Star : \n"))
```

```
for i in range(0, n):  
    for j in range(0, i + 1):  
        print("*", end=" ")  
    print()
```

```
for i in range(n-2, -1,-1):  
    for j in range(0, i + 1):  
        print("*", end=" ")  
    print()
```



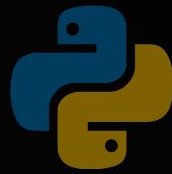
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Debugging

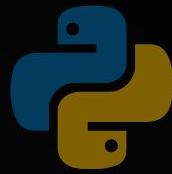


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What is Data Structure ?

(Example : list, set, dictionaries etc)



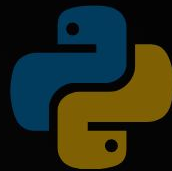
What is **Algorithm ?**

(Example : Reverse Guessing Game)

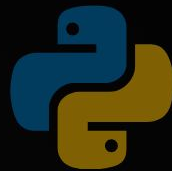


Data Structure :
organisation of data

Algorithm :
a procedure or formula for solving a problem

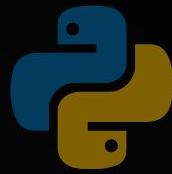


**How
will
you
Save
5 & 10
in computer memory?**



**How
will
you
Save**

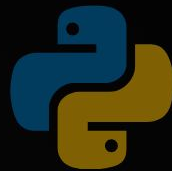
1, 2 , 5, 8 , 10, 12, 25
in computer memory?



How will you save

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27
28 29 30 31 32 33 34 35 36 37 38 39
40 41 42 43 44 45 46 47 48 49 50 51
52 53 54 55 56 57 58 59 60

in computer memory?

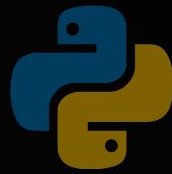


How to use **Lists** in Python ?



Lists

A list is a **data structure** in Python that is a mutable, or changeable, ordered sequence of elements. Each element or value that is inside of a list is called an item. ... They enable you to keep data together that belongs together, condense your code, and perform the same methods and operations on multiple values at once.



Lists

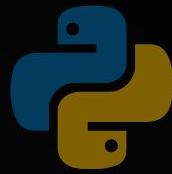
Numbers = [1, 2, 3, 4, 5]

Numbers[0] //returns first item

Numbers[1] //returns second item

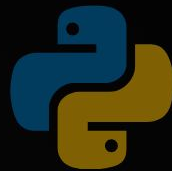
Numbers[-1] //returns last item

Numbers[-2] //returns second item from end



Functions of List

```
numbers.append(6)  
numbers.insert(0, 6)  
numbers.remove(6)  
numbers.pop()  
numbers.clear()
```

Functions of List

numbers.index(8)

numbers.sort()

numbers.reverse()

numbers.copy()

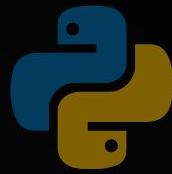
Shakespeare - Hamlet.txt

Though yet of Hamlet our dear brother's death
The memory be green, and that it us befitted
To bear our hearts in grief and our whole kingdom
To be contracted in one brow of woe,
Yet so far hath discretion fought with nature
That we with wisest sorrow think on him,
Together with remembrance of ourselves.
Therefore our sometime sister, now our queen,
The imperial jointress to this warlike state,
Have we, as 'twere with a defeated joy,--
With an auspicious and a dropping eye,
With mirth in funeral and with dirge in marriage,
In equal scale weighing delight and dole,--
Taken to wife: nor have we herein barr'd
Your better wisdoms, which have freely gone
With this affair along. For all, our thanks.
Now follows, that you know, young Fortinbras,
Holding a weak supposal of our worth,
Or thinking by our late dear brother's death
Our state to be disjoint and out of frame,
Collegued with the dream of his advantage,
He hath not fail'd to pester us with message,
Importing the surrender of those lands
Lost by his father, with all bonds of law,
To our most valiant brother. So much for him.
Now for ourself and for this time of meeting:
Thus much the business is: we have here writ
To Norway, uncle of young Fortinbras,--
Who, impotent and bed-rid, scarcely hears
Of this his nephew's purpose,--to suppress
His further gait herein; in that the levies,
The lists and full proportions, are all made
Out of his subject: and we here dispatch
You, good Cornelius, and you, Voltimand,
For bearers of this greeting to old Norway;
Giving to you no further personal power
To business with the king, more than the scope
Of these delated articles allow.
Farewell, and let your haste commend your duty.

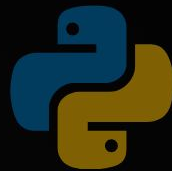


FILE I/O





Project Showcasing

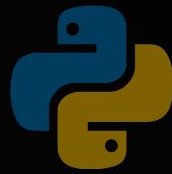


Automate **Messenger** With **PyAutoGUI**

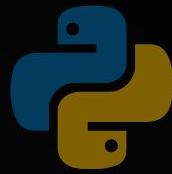
Explore Documentation : <https://pyautogui.readthedocs.io/en/latest/>



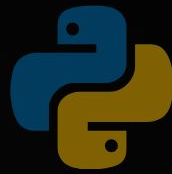
Corona Virus Newsletter



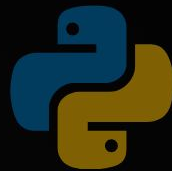
Rokomari Booklist Scrapper



Bulk EMAIL Sender



AUTOMATIC CERTIFICATE GENERATOR

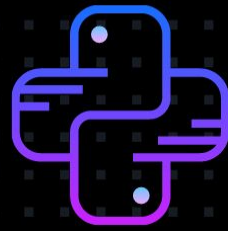


Codeforces AutoTracker (Spy)



Bank App Simulation

Reliable Source for code snippets



- **StackOverFlow**
- **Geek for Geeks**
- **Programiz**
- **TutorialPoints**
- **w3School**

How to make an app?



Suppose,

An Bulk Email Sending App



Search on Google (StackOverflow, GeekforGeeks etc)
How to control Gmail using Python?



Search on Google

Test the code snippet which works



Try to send 1 email from your email to yourself



Try to send same email with cc, bcc



Try to connect your script with Excel / GoogleSpreadSheet to get email list



Try to give a proper command-line interface to run the program



Try to add attachments with the email



Try to add rich text email (by adding HTML,CSS)



Run the program in different test cases and find bugs



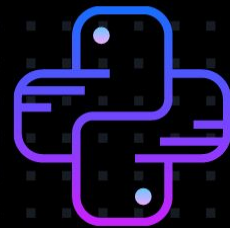
Fix them and improve if you find any major issues



Your bulk-email app is ready !

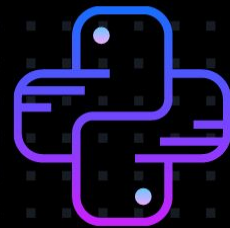


Web Development



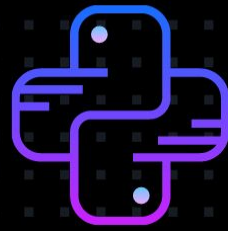
- **Flask**
- **Django (Back end)**

Web Scrapping



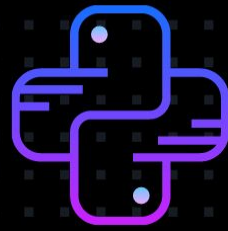
- BeautifulSoup
- Selenium
- Scrapy

Machine Learning



- **Numpy**
- **Pandas**
- **Matplotlibs**

GUI APPS (Graphical User Interface)



- **ElectronJS**
- **Tkinter (Python Module)**
- **PyQT5**

Books & Resources



- **CS 50 (English, Highly Recommended)**
- **Programming with Mosh (English)**
- **Zulkarnine Mahmud (Bengali)**
- **Jhankar Mahbub (Bengali)**



What to learn next?

Akif Islam



Online Judges



Thank you

Akif Islam