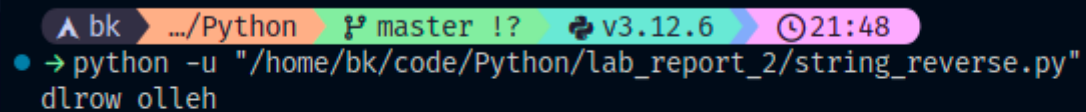


1. String reverse

```
def reverse(str):  
    new_str=""  
  
    for i in range(len(str)):  
        new_str+=str[len(str)-1-i]  
  
    return new_str  
  
str="hello world"  
new_str= reverse(str)  
print(new_str)
```

A terminal window with a dark background. The prompt is 'bk' followed by a right arrow. The path is '.../Python'. The environment shows 'master !?' and 'v3.12.6'. The time is '21:48'. The command entered is 'python -u "/home/bk/code/Python/lab_report_2/string_reverse.py"' and the output is 'dlrow olleh'.

```
bk → .../Python master !? v3.12.6 21:48  
• → python -u "/home/bk/code/Python/lab_report_2/string_reverse.py"  
dlrow olleh
```

2. Type conversion

```
list=[1,2,3,4,5,6,7]  
str_list=[]  
for i in range(len(list)):  
    str_list.append(str(list[i]))  
  
print(str_list)
```

```
^ bk > .../Python  master !?  v3.12.6  21:48
• → python -u "/home/bk/code/Python/lab_report_2/type_conversion.py"
['1', '2', '3', '4', '5', '6', '7']

^ bk > .../Python  master !?  v3.12.6  21:49
○ →
```

3. Temperature converter

```
celsius=float(input())

fahrenheit = (celsius * 9 / 5) + 32

print(fahrenheit)
```

```
^ bk > .../Python  master !?  v3.12.6  21:50
• → python -u "/home/bk/code/Python/lab_report_2/temp_converter.py"
99.9
211.82

^ bk > .../Python  master !?  v3.12.6  21:50
○ →
```

4. String palindrome

```
str='aabbaa'

for i in range(len(str)):
    if str[i]!=str[len(str)-1-i]:
        print("not palindrome")
        break
print("palindrome")
```

```
21:50
A bk .../Python ⓘ master !? v3.12.6 21:50
• → python -u "/home/bk/code/Python/lab_report_2/string_palindrome.py"
  palindrome

A bk .../Python ⓘ master !? v3.12.6 21:51
○ →
```

5. String reverse with slicing

```
str="hello world"

new_str=str[::-1]

print(new_str)
```

```
palindrome
A bk .../Python ⓘ master !? v3.12.6 21:51
• → python -u "/home/bk/code/Python/lab_report_2/string_reverse_slicing.py"
  dlrow olleh

A bk .../Python ⓘ master !? v3.12.6 21:52
○ →
```

6. Grade classification

```
student_percent=float(input())

grade=""

if student_percent >=90:
    grade+="A+"

elif student_percent >=80 and student_percent<90:
    grade+="A"
```

```

elif student_percent >=70 and student_percent<80:
    grade+="B"
elif student_percent >=60 and student_percent<70:
    grade+="C"
else :
    grade+="fail"

print(grade)

```

```

^ bk  .../Python  master !?  v3.12.6  21:52
• → python -u "/home/bk/code/Python/lab_report_2/grade_classification.py"
86.5
A

^ bk  .../Python  master !?  v3.12.6  21:53
○ →

```

7. Table of a number

```

number = 9

for i in range(11):
    print(f'{number} * {i} = {number*i}')

```

```

^ bk  .../Python  master !?  v3.12.6  21:53
• → python -u "/home/bk/code/Python/lab_report_2/tempCodeRunnerFile.py"
9 * 0 = 0
9 * 1 = 9
9 * 2 = 18
9 * 3 = 27
9 * 4 = 36
9 * 5 = 45
9 * 6 = 54
9 * 7 = 63
9 * 8 = 72
9 * 9 = 81
9 * 10 = 90

^ bk  .../Python  master !?  v3.12.6  21:54
○ →

```

8. Count digit

```
number=100010
count=0
while number != 0:
    count+=1
    number=number//10

print(count)
```

```
^ bk > .../Python  ? master !? v3.12.6 21:54
● → python -u "/home/bk/code/Python/lab_report_2/count_digits.py"
6

^ bk > .../Python  ? master !? v3.12.6 21:55
○ →
```

9. Fibonacci sequence

```
list=[0,1]
number=int(input())
for i in range(number):
    list.append(list[i]+list[i+1])
print(list)
```

```
^ bk > .../Python  ? master !? v3.12.6 21:55
● → python -u "/home/bk/code/Python/lab_report_2/fibonacci.py"
9
[0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55]

^ bk > .../Python  ? master !? v3.12.6 21:56
○ →
```

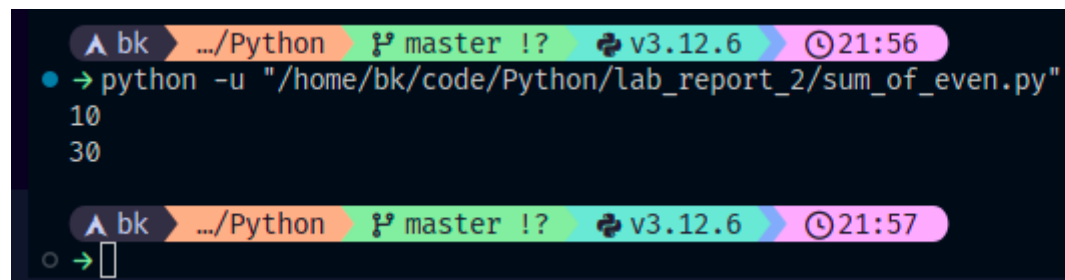
10. Sum of even numbers

```
number=int(input())
```

```
sum=0

for i in range(number+1):
    if i%2==0:
        sum+=i

print(sum)
```



A terminal window with a dark background and colorful syntax highlighting. The top bar shows the user 'bk', the directory '.../Python', the shell 'master !?', the Python version 'v3.12.6', and the time '21:56'. The command 'python -u "/home/bk/code/Python/lab_report_2/sum_of_even.py"' is entered, followed by the output '10' and '30'. The bottom bar shows the same information but with the time '21:57' and a prompt '→'.

```
bk .../Python master !? v3.12.6 21:56
→ python -u "/home/bk/code/Python/lab_report_2/sum_of_even.py"
10
30

bk .../Python master !? v3.12.6 21:57
→
```

11. Print patterns

```
num=5

for i in range(num):
    for j in range(i):
        print(" * ",end='')
    print()

for i in range(num):
    for j in range(num-i):
        print(" * ",end='')
    print()
```

```
bk .../Python master !? v3.12.6 21:57
→ python -u "/home/bk/code/Python/lab_report_2/print_patterns.py"

*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*

bk .../Python master !? v3.12.6 21:58
→
```

12. Prime number checker

```
number=int(input())
prime=True
for i in range(2,number):
    if(number%i==0):
        prime=False
        break

if(prime):
    print("prime")
else:
    print("non prime")
```

```
bk .../Python master !? v3.12.6 21:58
→ python -u "/home/bk/code/Python/lab_report_2/prime_number.py"
50
non prime

bk .../Python master !? v3.12.6 21:59
→
```

13. List manipulation

```
list=[1,2,3,4,5,6,7,8,9]

sum=0

max=list[0]
min=list[0]

for i in range(len(list)):

    sum=sum+list[i]

    if(list[i]>max):

        max=list[i]

    if(list[i]<min):

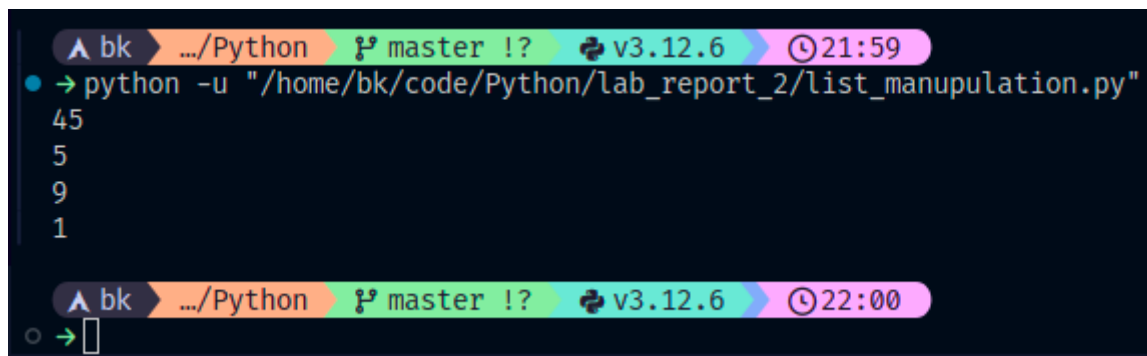
        min=list[i]

print(sum)

print(sum//len(list))

print(max)

print(min)
```



A terminal window showing the execution of a Python script. The terminal has a dark background with a light blue prompt 'bk' and a light green path '.../Python'. The command 'python -u "/home/bk/code/Python/lab_report_2/list_manupulation.py"' is entered. The output shows the sum '45', the average '5', the maximum '9', and the minimum '1'. The terminal also shows the time '21:59' and '22:00'.

```
bk .../Python master !? v3.12.6 21:59
→ python -u "/home/bk/code/Python/lab_report_2/list_manupulation.py"
45
5
9
1
bk .../Python master !? v3.12.6 22:00
→
```

14. Reverse string

```
str="hello world"

new_str=""
```



```
for i in range(len(str)):
    new_str+=str[len(str)-1-i]

print(new_str)
```

```
^ bk > .../Python > master !? > v3.12.6 > 22:00
• → python -u "/home/bk/code/Python/lab_report_2/reverse_string.py"
dlrow olleh

^ bk > .../Python > master !? > v3.12.6 > 22:01
○ →
```

15. List sum

```
list=[1,2,3,4,5,6,7,8,9]
sum=0

for i in range(len(list)):
    sum=sum+list[i]

print(sum)
```

```
^ bk > .../Python > master !? > v3.12.6 > 22:01
• → python -u "/home/bk/code/Python/lab_report_2/list_sum.py"
45

^ bk > .../Python > master !? > v3.12.6 > 22:01
○ →
```

16. List average

```
list=[1,2,3,4,5,6,7,8,9]
```

```
sum=0

for i in range(len(list)):
    sum=sum+list[i]

print(sum//len(list))
```

```
▲ bk > .../Python ⓘ master !? v3.12.6 ⌚ 22:01
● → python -u "/home/bk/code/Python/lab_report_2/list_avg.py"
5

▲ bk > .../Python ⓘ master !? v3.12.6 ⌚ 22:02
○ →
```

17. List max and min

```
list=[1,2,3,4,5,6,7,8,9]

max=list[0]
min=list[0]

for i in range(len(list)):
    if(list[i]>max):
        max=list[i]
    if(list[i]<min):
        min=list[i]

print(max)
print(min)
```

```
^ bk > .../Python  master !?  v3.12.6  22:02
• → python -u "/home/bk/code/Python/lab_report_2/list_min_max.py"
9
1

^ bk > .../Python  master !?  v3.12.6  22:03
○ →
```

18. List sorting

```
list=[9,8,7,6,5,4,3,2,1]

for i in range(len(list)):
    for j in range(len(list)-1-i):
        if list[j]>list[j+1]:
            temp=list[j]
            list[j]=list[j+1]
            list[j+1]=temp

print(list)
```

```
^ bk > .../Python  master !?  v3.12.6  22:03
• → python -u "/home/bk/code/Python/lab_report_2/list_sort.py"
[1, 2, 3, 4, 5, 6, 7, 8, 9]

^ bk > .../Python  master !?  v3.12.6  22:04
○ →
```

19. List filtering

```
list=[1,2,3,4,5,6,7,8,9]

list2=[]

for i in range(len(list)):
```

```
if list[i]%2==0:
    list2.append(list[i])

print(list2)
```

```
▲ bk .../Python ⓘ master !? v3.12.6 22:04
● → python -u "/home/bk/code/Python/lab_report_2/list_filter.py"
[2, 4, 6, 8]

▲ bk .../Python ⓘ master !? v3.12.6 22:05
○ →
```

20. List reverse

```
list=[1,2,3,4,5,6,7,8,9]
reversed_list=[]

for i in range(len(list)-1,-1,-1):
    reversed_list.append(list[i])

print(reversed_list)
```

```
▲ bk .../Python ⓘ master !? v3.12.6 22:05
● → python -u "/home/bk/code/Python/lab_report_2/list_reversal.py"
[9, 8, 7, 6, 5, 4, 3, 2, 1]

▲ bk .../Python ⓘ master !? v3.12.6 22:06
○ →
```

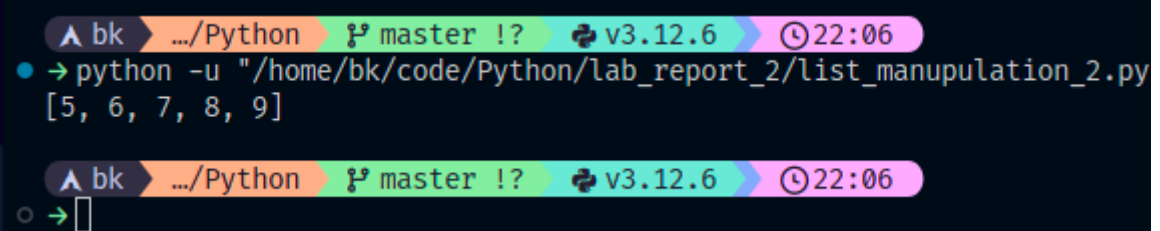
21. List manipulation 2

```
list1=[1,2,3,4,5,6,7,8,9]
list2=[5,6,7,8,9,10,11,12,13,14]
```

```
new_list=[]

for i in range(len(list1)):
    if list1[i] in list2:
        new_list.append(list1[i])

print(new_list)
```



A terminal window with a dark background and colorful syntax highlighting. The prompt is 'bk' and the directory is '.../Python'. The terminal shows the execution of a Python script: 'python -u "/home/bk/code/Python/lab_report_2/list_manupulation_2.py"'. The output is '[5, 6, 7, 8, 9]'. Below this, the prompt is again 'bk' and the directory is '.../Python', with a cursor visible on a new line.

22. List element count

```
list=[1,2,3,4,5,5,5,6,6,6,7,8,9,10,11,12,13,14]

dict={}

for i in range(len(list)):
    if list[i] in dict:
        dict[list[i]]+=1
    else:
        dict[list[i]]=1

print(dict)
```

```
^ bk > .../Python > !? master !? v3.12.6 22:06
• → python -u "/home/bk/code/Python/lab_report_2/list_element_count.py"
{1: 1, 2: 1, 3: 1, 4: 1, 5: 3, 6: 3, 7: 1, 8: 1, 9: 1, 10: 1, 11: 1, 12: 1, 13:
1, 14: 1}

^ bk > .../Python > !? master !? v3.12.6 22:07
○ →
```

23. List duplicate removal

```
list=[1,2,3,4,5,5,5,6,6,6,7,8,9]

list2=[]

for i in range(len(list)):
    if list[i] not in list2:
        list2.append(list[i])

print(list2)
```

```
^ bk > .../Python > !? master !? v3.12.6 22:07
• → python -u "/home/bk/code/Python/lab_report_2/list_duplicate_remove.py"
[1, 2, 3, 4, 5, 6, 7, 8, 9]

^ bk > .../Python > !? master !? v3.12.6 22:08
○ →
```

24. List comprehension

```
list1=[1, 2, 3, 4, 5, 6, 7, 8, 9]

list2=[i**2 for i in list1]

print(list2)
```

▲ bk .../Python ⓘ master !? v3.12.6 ⌚ 22:08
● → python -u "/home/bk/code/Python/lab_report_2/list_comprehension.py"
[1, 4, 9, 16, 25, 36, 49, 64, 81]

○ ▲ bk .../Python ⓘ master !? v3.12.6 ⌚ 22:09
→