

PROGRAMMING WITH PYTHON

1. Write a Python program to display 'Hello World' Message on Screen.

Script: p1.py

```
print("Hello World");
print("A","N","K","I","T");
#PRINT("ANKIT RAMI"); only small letter print function work
# Single Line Comment tag for python
"""
Multiline Tag
This is a comment
written in
more than just one line
"""
```

Output:

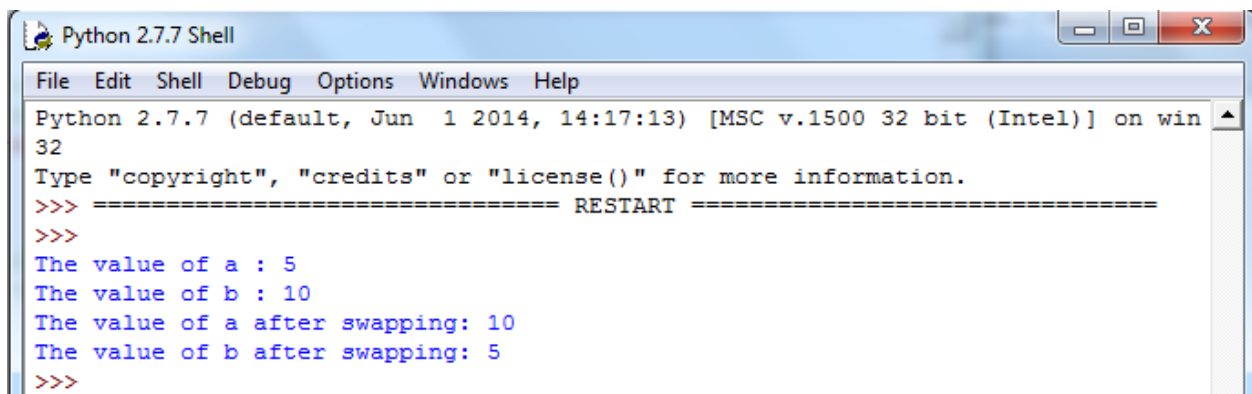
```
Hello World
('A', 'N', 'K', 'I', 'T')
```

2. Write a Python program to swap two variables

Script: p2.py

```
a = 5
b = 10
print('The value of a : {}'.format(a))
print('The value of b : {}'.format(b))
# create a temporary variable
temp = a
a = b
b = temp
print('The value of a after swapping: {}'.format(a))
print('The value of b after swapping: {}'.format(b))
```

Output:



```
Python 2.7.7 Shell
File Edit Shell Debug Options Windows Help
Python 2.7.7 (default, Jun 1 2014, 14:17:13) [MSC v.1500 32 bit (Intel)] on win
32
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
The value of a : 5
The value of b : 10
The value of a after swapping: 10
The value of b after swapping: 5
>>>
```

PROGRAMMING WITH PYTHON

3. Write a Python program to display the Fibonacci series

Script: p3.py

```
num = int(input("Enter Number = "))
n1, n2 = 0, 1
print("Fibonacci Series:", n1, n2, end=" ")
for i in range(2, num):
    n3 = n1 + n2
    n1 = n2
    n2 = n3
    print(n3, end=" ")
```

Output:

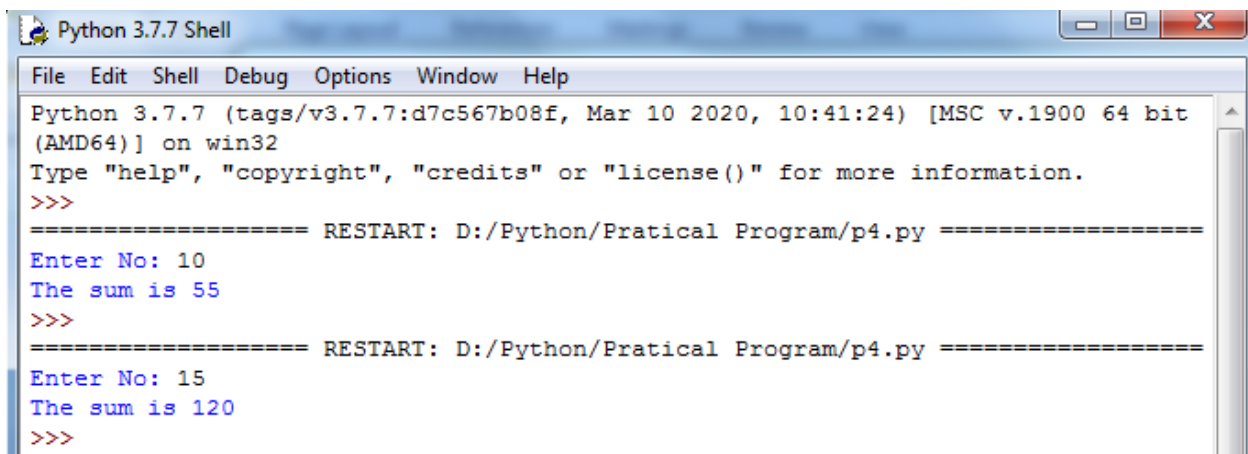
```
Enter No = 10
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34
```

4. Write a Python program to calculate sum of given number.

Script: p4.py

```
num = int(input("Enter No: "))
if num < 0:
    print("Enter a positive number")
else:
    sum = 0
    while(num > 0):
        sum += num
        num -= 1
    print("The sum is",sum)
```

Output:



```
Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 10:41:24) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/Python/Practical Program/p4.py =====
Enter No: 10
The sum is 55
>>>
===== RESTART: D:/Python/Practical Program/p4.py =====
Enter No: 15
The sum is 120
>>>
```

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5. Write a Python Program to print first prime number.

The prime number means a number that is divisible by itself and 1 only e.g. 2, 3, 5, 7, 11, 13, etc. So, **the first prime number is 2.**

Script: p5.py

```
no=int(input("Enter range:"))
print("Prime numbers:",end=' ')
for n in range(1,no):
    for i in range(2,n):
        if(n%i==0):
            break
    else:
        print(n,end=' ')
```

Output:

```
Enter range:10
Prime numbers: 1 2 3 5 7
```

6. Write a Python Program to check Armstrong Number.

The Armstrong number in python is the number in which the sum of each digit powered to the total number of digits is the same as the given number. i.e. for a given number say 153, $1^3 + 5^3 + 3^3$ is equal to 153.

Armstrong or not

1634 (here n = 4)

$$= 1^4 + 6^4 + 3^4 + 4^4$$

$$= 1 + 1296 + 81 + 256$$

$$= 1634$$

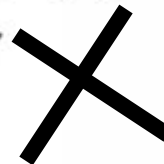


123 (here n = 3)

$$= 1^3 + 2^3 + 3^3$$

$$= 1 + 8 + 27$$

$$= 36$$

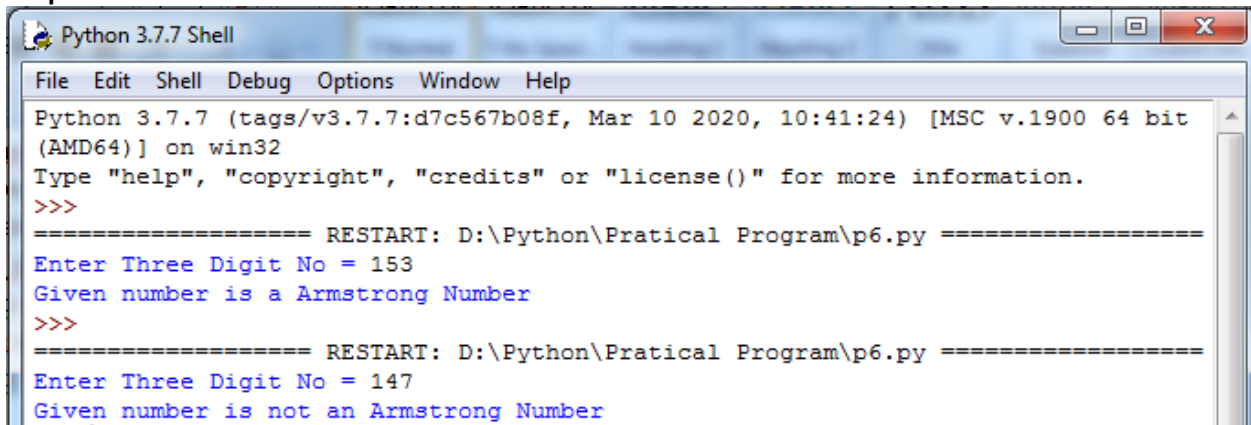


PROGRAMMING WITH PYTHON

Script: p6.py

```
number = int(input("Enter Three Digit No = "))
temp = number
add_sum = 0
while temp != 0:
    k = temp % 10
    add_sum += k*k*k
    temp = temp//10
if add_sum == number:
    print('Given number is a Armstrong Number')
else:
    print('Given number is not an Armstrong Number')
```

Output:



```
Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 10:41:24) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Python\Practical Program\p6.py =====
Enter Three Digit No = 153
Given number is a Armstrong Number
>>>
===== RESTART: D:\Python\Practical Program\p6.py =====
Enter Three Digit No = 147
Given number is not an Armstrong Number
```

7. Write a Python Program to create a sequence of numbers using range data type to display 1 to 30, with an increment of 2.

Script: p7.py

```
for i in range(1, 30, 2):
    print(i, end=" ")
print()
```

Output:

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29

PROGRAMMING WITH PYTHON

8. Write a Python Program to find area of circle.

Script: p8.py

```
import math as M
R = float(input ("Enter the radius of the given circle: "))
aoc = M.pi* R * R
print (" The area of the given circle is: ", aoc)
```

Output:

```
Enter the radius of the given circle: 10
The area of the given circle is: 314.1592653589793
```

9. Write a Python program to implement Factorial series up to user entered number.

Script: p9.py

```
num = int(input("Enter a number: "))
factorial = 1
# check if the number is negative, positive or zero
if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
else:
    for i in range(1,num + 1):
        factorial = factorial*i
    print("The factorial of",num,"is",factorial)
```

Output:

```
Enter a number: 5
The factorial of 5 is 120
```

10. Write a Python program to check the given number is palindrome or not.

A palindrome is nothing but any number or a string which remains unaltered when reversed.

Example:

12321

Output: Yes, a Palindrome number

Example:

RACECAR

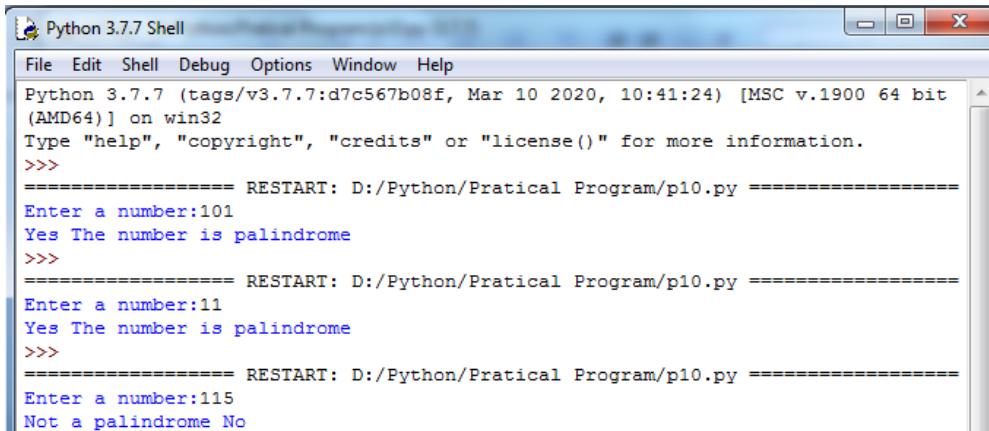
Output: Yes, a Palindrome string

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Script: p10.py for Number

```
num=int(input("Enter a number:"))
temp=num
rev=0
while(num>0):
    dig=num%10
    rev=rev*10+dig
    num=num//10
if(temp==rev):
    print("Yes The number is palindrome")
else:
    print("Not a palindrome No")
```

Output:

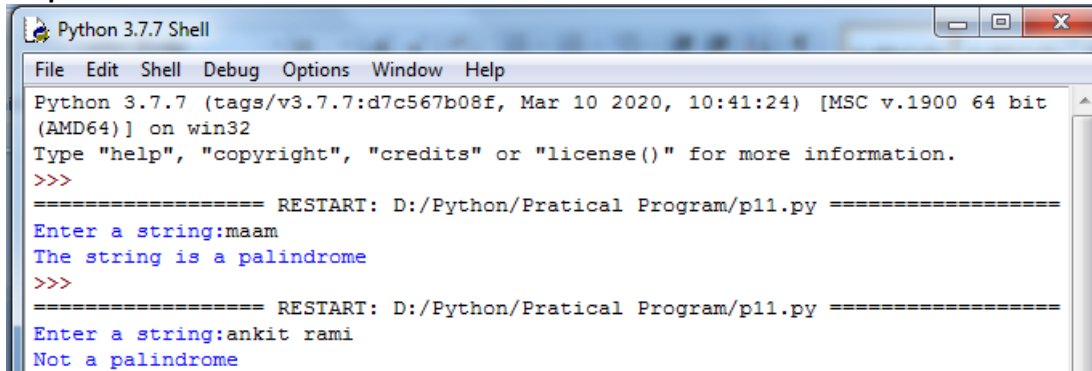


```
Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 10:41:24) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/Python/Practical Program/p10.py =====
Enter a number:101
Yes The number is palindrome
>>>
===== RESTART: D:/Python/Practical Program/p10.py =====
Enter a number:11
Yes The number is palindrome
>>>
===== RESTART: D:/Python/Practical Program/p10.py =====
Enter a number:115
Not a palindrome No
```

Script: p10.py for String

```
string=input(("Enter a string:"))
if(string==string[::-1]):
    print("The string is a palindrome")
else:
    print("Not a palindrome")
```

Output:



```
Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 10:41:24) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/Python/Practical Program/p11.py =====
Enter a string:maam
The string is a palindrome
>>>
===== RESTART: D:/Python/Practical Program/p11.py =====
Enter a string:ankit rami
Not a palindrome
```

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11. Write a python program to display ascending and descending order from given 10 numbers.

Script: p11.py

```
#Given 10 No
my_list = [11,55,66,44,22,33,77,99,88]
# sorts the list in place
my_list.sort()
print("Ascending Order List : ", my_list)
my_list.sort(reverse=True)
print("Descending Order List : ", my_list)
```

Output:

```
Ascending Order List : [11, 22, 33, 44, 55, 66, 77, 88, 99]
Descending Order List : [99, 88, 77, 66, 55, 44, 33, 22, 11]
```

12. Write a Python program to print the duplicate elements of an array

Script: p12.py

```
arr = [1,2,4,5,6,2,3,4,5];
print("Duplicate elements in given array: ");
for i in range(0, len(arr)):
    for j in range(i+1, len(arr)):
        if(arr[i] == arr[j]):
            print(arr[j]);
```

Output:

```
Duplicate elements in given array:
2
4
5
```

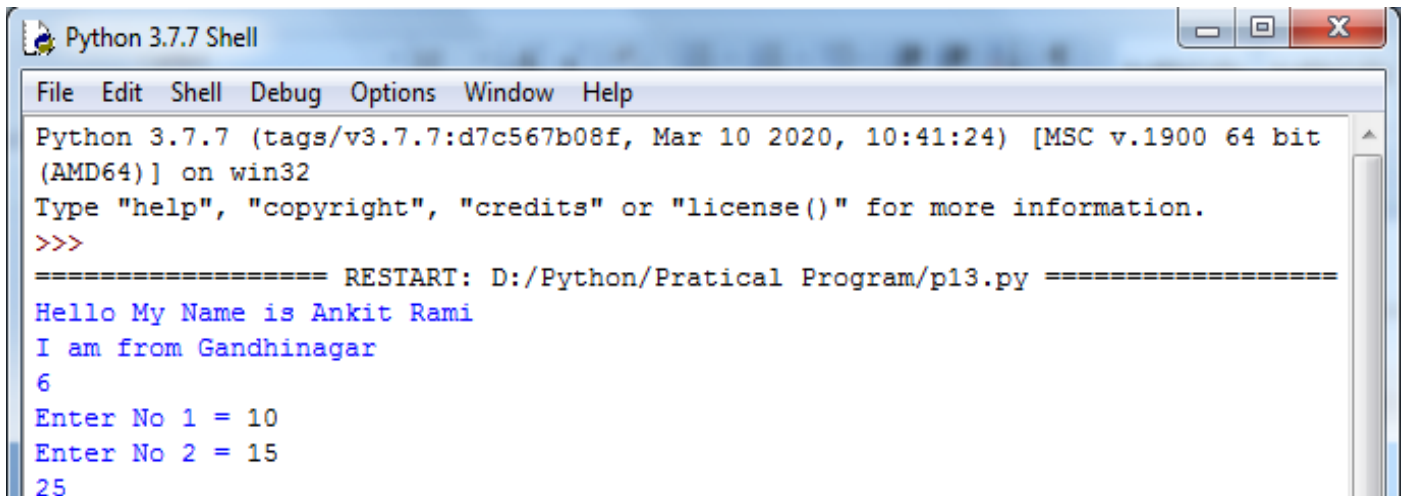
PROGRAMMING WITH PYTHON

13. Write Python programs to create functions and use functions in the program.

Script: p13.py

```
#Define static function
def arinfo():
    print("Hello My Name is Ankit Rami")
    print("I am from Gandhinagar")
#Call Function
arinfo()
#arguments function
def sum(num1, num2):
    print(num1 + num2)
sum(2, 4)
#arguments function with get value from user
def ds(num1, num2):
    print(num1 + num2)
no1=int(input("Enter No 1"))
no2=int(input("Enter No 2"))
ds(no1,no2)
```

Output:



```
Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 10:41:24) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/Python/Practical Program/p13.py =====
Hello My Name is Ankit Rami
I am from Gandhinagar
6
Enter No 1 = 10
Enter No 2 = 15
25
```

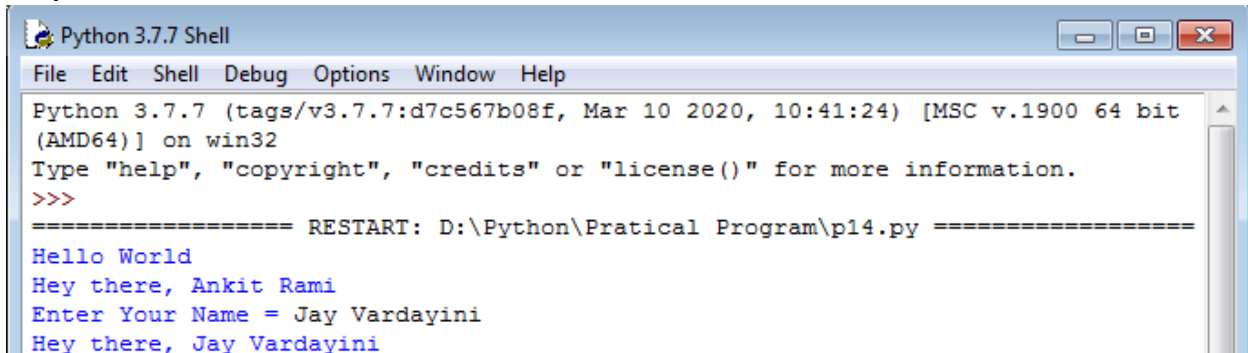

PROGRAMMING WITH PYTHON

14. Write Python programs to using lambda function.

Script: p14.py

```
# declare a lambda basic function
data = lambda : print('Hello World')
# call lambda function
data()
# lambda function accepts argument
username = lambda name : print('Hey there,', name)
# lambda call
username('Ankit Rami')
# lambda function accepts user argument
username = lambda name : print('Hey there,', name)
# lambda call
name=input("Enter Your Name = ")
username(name)
```

Output:



```
Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 10:41:24) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Python\Practical Program\p14.py =====
Hello World
Hey there, Ankit Rami
Enter Your Name = Jay Vardayini
Hey there, Jay Vardayini
```

15. Write Python programs to load the module in Python code.

Script: mymodule.py

Create mymodule.py File Step-1

```
def greeting(name):
    print("Hello, " + name)
def sum(a,b):
    print("Sum Ans is - ",(a+b))
```

Script: callmodule.py

Create callmodule.py File Step-2

```
import ar
ar.greeting("Jonathan")
ar.sum(5,5)
```

Output:

```
Hello, Ankit Rami
Sum Ans is - 10
```


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17.

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

Script: p17.py

```
rows = 5
for i in range(1, rows + 1):
    for j in range(1, i + 1):
        print(j, end=' ')
    print("")
```

Output:

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

18. Write Python programs to implement a concept of list.

Script: p18.py

```
# a simple list
list1 = [1,2,"Python","AR","Program",15.9]
list2 = ["Ankit", "Smit", "Deep", "Zeel"]
# printing the list
print(list1)
print(list2)
# sort list
list2.sort()
print(list2)
list2.sort(reverse = True)
print(list2)
# printing the type of list
print(type(list1))
print(type(list2))
# Print Item Index Wise
print(list1[0])
print(list2[1])
# Slicing the elements
print(list1[3:6])
print(list1[-1])
print(list1[-3:-1])
```

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```
# find length
print(len(list1))
# update list item
a1 = ["apple", "banana", "cherry"]
a1.append("orange")
a1.insert(1, "mango")
print(a1)
# remove items
a1.remove("banana")
print(a1)
a1.pop(1)
print(a1)
del a1[2]
print(a1)
a1.clear()
print(a1)
#delete List a1
del a1
print(a1)
```

Output:

```
[1, 2, 'Python', 'AR', 'Program', 15.9]
['Ankit', 'Smit', 'Deep', 'Zeel']
['Ankit', 'Deep', 'Smit', 'Zeel']
['Zeel', 'Smit', 'Deep', 'Ankit']
<class 'list'>
<class 'list'>
1
Smit
['AR', 'Program', 15.9]
15.9
['AR', 'Program']
6
['apple', 'mango', 'banana', 'cherry', 'orange']
['apple', 'mango', 'cherry', 'orange']
['apple', 'cherry', 'orange']
['apple', 'cherry']
[]
Traceback (most recent call last):
  File "D:/Python/Practical Program/p18.py", line 40, in <module>
    print(a1)
NameError: name 'a1' is not defined
```

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19. Write Python programs to implement a concept of tuples.

Script: p19.py

```
t1 = ("apple", "banana", "cherry", "orange", "kiwi", "melon", "mango")
print(t1)
#find length
print(len(t1))
#find type
print(type(t1))
tuple1 = ("abc", 34, True, 40, "male")
print(tuple1)
#access tuple value
print(t1[1])
print(t1[-1])
print(t1[2:5])
print(t1[-5:-3])
# add value in tuple
tadd = ("apple", "banana", "cherry")
y = list(tadd)
y.append("orange")
tadd = tuple(y)
print(tadd)
# remove value in tuple
z = list(tadd)
z.remove("apple")
tadd = tuple(z)
print(tadd)
```

Output:

```
('apple', 'banana', 'cherry', 'orange', 'kiwi', 'melon', 'mango')
7
<class 'tuple'>
('abc', 34, True, 40, 'male')
banana
mango
('cherry', 'orange', 'kiwi')
('cherry', 'orange')
('apple', 'banana', 'cherry', 'orange')
('banana', 'cherry', 'orange')
```

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20. Write Python program to add your input data into scjpcss.txt file

Script: p20.py

```
f = open("scjpcss.txt", "a")
f.write("My Name is Ankit Rami")
f.close()
```

Output:

Only Show >>>

21. Write a Python program to read data from scjpcss.txt.

Script: p21.py

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

Output:

My Name is Ankit Rami

22. Write a Python program for Error Handling.

Script: p22.py

```
a = ["Python", "Exceptions", "try and except"]
try:
    for i in range( 4 ):
        print( "The index and element from the array is", i, a[i] )
except:
    print ("Index out of range")
```

Output:

The index and element from the array is 0 Python
The index and element from the array is 1 Exceptions
The index and element from the array is 2 try and except
Index out of range

23. Create interface of Google sheet API using Python for open Google sheet by various method.

24. Create interface of Google sheet API using Python for getting cell value from Google sheet.

25. Create interface of Google sheet API using Python for update cell value into Google sheet.

26. Create interface of Google sheet API using Python for getting cell values from Google sheet column.

Link for Solution - <https://amit.arinfoaway.com/wp-content/uploads/2024/03/PYTHON-UNIT-5.pdf>

PROGRAMMING WITH PYTHON



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