II MBA III SEM

22MBA238 : INTRODUCTION TO PYTHON

LAB MANUAL

II MBA / I - SEMESTER REGULATION: R22

BY

FACULTY INCHARGE : DR.K.SUDARSAN , PROFESSOR

DEPARTMENT : MASTER OF BUSINESS ADMINISTRATION

INSTITUTE VISION AND MISSION

VISION:

To emerge as a Center of Excellence for Learning and Research in the domains of engineering, computing and management.

MISSION:

IM1: Provide congenial academic ambience with state-of-art resources for learning and research.
IM2: Ignite the students to acquire self-reliance in the latest technologies.
IM3: Unleash and encourage the innate potential and creativity of students.
IM4: Inculcate confidence to face and experience new challenges.
IM5: Foster enterprising spirit among students.
IM6: Work collaboratively with Technical Institutes / Universities / Industries of National, International repute.

DEPARTMENT OF MANAGEMENT STUDIES VISION AND MISSION

VISION

Become Center of Excellence for Educating Management Students as Leaders of Tomorrow.

MISSION

- Provide congenial academic ambience with necessary infrastructure and learning resources.
- Inculcate confidence to face and experience new challenges from industry and society.
- Ignite the students to acquire self-reliance in State-of-the-Art Technologies.
- Foster Enterprising spirit among students.

Program Educational Objectives (PEOs)

PEO1: Have in-depth knowledge through life-long learning to conceptualize, critically analyze and add value in the areas of business management.

PEO2: Have lateral thinking enabling simple solutions for complex managerial problems.

PEO3: Ignite the passion for entrepreneurship.

PEO4: Inculcate a spirit of ethical and social commitment in the personal and professional life and to add value to the society.

Program Outcomes (POs)

POs	Statements
PO1	Apply knowledge of management theories and practices to solve business problems
PO2	Foster analytical and critical thinking abilities for data-based decision making
PO3	Ability to develop value based leadership ability
PO4	Ability to understand, analyze and communicate global, economic, legal and ethical aspects of business
PO5	Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment
PO6	Demonstrate competencies in theoretical concepts and practices in the field of human resource management
PO7	Apply the ever evolving marketing techniques to encounter the challenges and leverage opportunities
PO8	Apply financial knowledge and skills to take business decisions in professional business Environment

Program Specific Outcomes (PSOs)

PSOs	Statements
PSO1	Apply core and functionary management skills for professional growth and business evaluation
PSO2	Adapt to dynamic changes in an environment relevant to professional managerial practice and entrepreneurship as emerging leaders

II MBA – Semester - III

Course Code	INTRODUCTION TO PYTHON	L	T	P	C
22MBA238		0	0	2	1

Course Educational Objectives (CEO):

CEO1: Enhance the knowledge on basic principles of python

CEO2: Enhance the knowledge on functions and strings in python

CEO3: Acquire the knowledge on data structures in python

CEO4: Enable students to write simple object oriented programming in python

CEO5: Understand the exception handling and modules

UNIT - I	**Introduction to Python**	Lecture Hrs: 6
Introduction to Python, Python Features, Operators, Variables, Control Statements (conditional, loopimg, transfer)		
UNIT - II	**Functions and Strings**	Lecture Hrs 6
Functions: Function Definition, Function call, Types of Arguments, Lambda Function. Strings: String Handling Functions		
UNIT - III	**Data Structures**	Lecture Hrs:6
Lists, Tuples, Sets and Dictionaries		
UNIT - IV	**Object Oriented Programming**	Lecture Hrs:9
Object, Define Class, Constructor, Methods in Python, Inheritance, Abstraction, Polymorphism.		
UNIT - V	**Exception Handling and Modules**	Lecture Hrs:9
Exception, Syntax errors, Runtime Errors, Module - Math Module, Creating Modules		

Course Outcomes:

On successful completion of the course the student will be able to,		**POs & PSOs related to COs**
CO1	**Understanding** the knowledge on basic principles of python.	PO2, PSO1
CO2	**Apply** the functions and strings in python.	PO2, PSO1
CO3	**Analyze** the data structures in python.	PO2, PSO1
CO4	**Apply** simple object oriented programming in python.	PO2, PSO1
CO5	**Analyze** the data handling and modules.	PO2, PSO1

Text Books:

1. Python for Programrs, Paul Deitel and Harvey Deitel, Pearson Education, 1st Edition, 2021.
2. Python Programming: An Introduction to Computer Science, 3/e, John M Zelle, Franklin Beedle, Independent Publishers, 2020.

Reference Book:

1. Computational Thinking: A Primer for Programrs and Data Scientists, 1/e, G Venkatesh and Madhavan Mukund, Notion Press, 2021.
2. Introduction to Computation and Programming Using Python: With Applications to Computational Modeling and Understanding Data, 3/e, John V Guttag, & Quot, MIT Press 2021.

Online Learning Resources:

https://www.programiz.com/python-programming
https://www.youtube.com/watch?v=adNgan70iyU
https://www.youtube.com/watch?v=c235EsGFcZs

COURSE OUTCOMES VS POs MAPPING (DETAILED; HIGH:3; MEDIUM:2; LOW:1**):**

Course	PO / CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PSO1	PSO2
C2308 : INTRODUCTION TO PYTHON	C2308.1	-	3	-	-	-	-	-	-	3	-
	C2308.2	-	3	-	-	-	-	-	-	3	-
	C2308.3	-	3	-	-	-	-	-	-	3	-
	C2308.4	-	3	-	-	-	-	-	-	3	-
	C2308.5	-	3	-	-	-	-	-	-	3	-
	C2308	**-**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**3**	**-**

LIST OF EXPERIMENTS

S. No.	Experiment Name
1	Check the given number is prime or not in python program.
2	Create a program containing a pair of nested while loops that displays the integer values 1–100, ten numbers per row, with the columns aligned as shown below : 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 - - - - - - - - - - - - 91 92 93 94 95 96 97 98 99 100
3	Check biggest among 3 numbers in python program.
4	Create a Python program to perform the string operations by using string functions.
5	Create a python program to print the reverse of a given string.
6	Create the lists and perform the different operations by using list functions.
7	Create a python program by using functions to prints the sum the lists.
8	Create the tuple and set to perform different operations on tuple and sets by using tuple and set functions.
9	Create the dictionary to perform add, changing, updating the dictionary and to perform different operations
10	Create a python program to prints the area of rectangle and area of triangle by using inheritance.
11	Create a python program by using abstraction concept.
12	Perform method overriding in python program.
13	Create a python program by using exception handing concepts.
14	Create a custom module in python program.
15	Perform the calculations by using math module in python program.

Table No. 1: Rubrics for Python Lab

CO	Excellent (3)	Good (2)	Fair (1)
Assemble (CO1)	Student successfully completes the activity, gathers appropriate data about the topic and gives effective oral presentations.	Student successfully completes the activity, gathers data about the topic and gives effective oral presentations.	Student successfully completes the activity, gathers data about the topic and gives oral presentations moderately.
Exhibit (CO2)	Learns and exhibits effective teambuilding skills through participation in group activities	Learns and exhibits reasonable teambuilding skills through participation in group activities	Learns and exhibits poor teambuilding skills through participation in group activities
Apply (CO3)	Student gains excellent knowledge in winning job interviews	Student gains moderate knowledge in winning job interviews	Student gains little knowledge in winning job interviews
Develop (CO4)	Student gains excellent knowledge in learning new concepts	Student gains moderate knowledge in learning new concepts	Student gains poor knowledge in learning new concepts
Derive (CO5)	Student develops outstanding professional and career competence skills	Student develops reasonable professional and career competence skills	Student develops deprived professional and career competence skills

DAY-TO-DAY EVALUATION OF LAB ACTIVITY:

REG. No.:

S. No.	ACTIVITY	ASSEMBLE	EXHIBIT	APPLY	DEVELOP	DERIVE
1	Establishing a Framework for Business Communication					
2	Focusing on Interpersonal and Group Communication					
3	Planning and Preparing Spoken and Written Messages					
4	Communicating Electronically					
5	Delivering Good News and Bad News Messages					
6	Understanding the Report Process and Research Methods					
7	Organizing and Preparing Reports and Proposals					
8	Designing and Delivering Business Presentations					
9	Preparing Resumes and Application Messages					
10	Interviewing for a Job					
11	Work Place Etiquette					
Average						

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(Autonomous)
DEPARTMENT OF MANAGEMENT STUDIES

II MBA III SEM

22MBA238 : INTRODUCTION TO PYTHON LAB MANUAL

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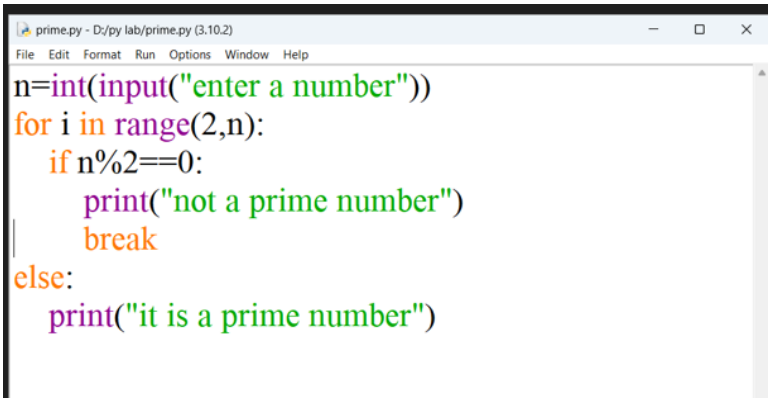
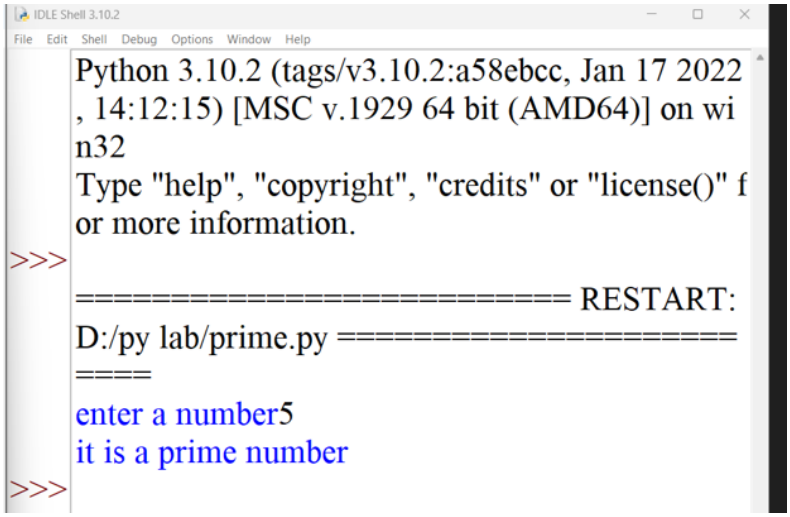
1. Check the given number is prime or not in python program.





2. Create a program containing a pair of nested while loops that displays the integer values 1–100, ten numbers per row, with the columns aligned as shown below :

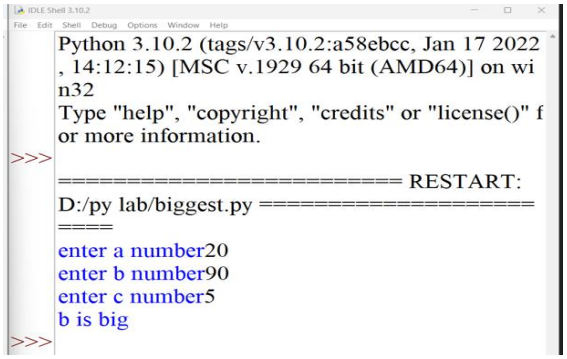
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
- - - - - - - - - - - -
91 92 93 94 95 96 97 98 99 100

```
i=1
j=11
while(i<=100):
    print(i,end=" ")
    i=i+1
    while(i==j):
        print(' ')
        j=j+10
```

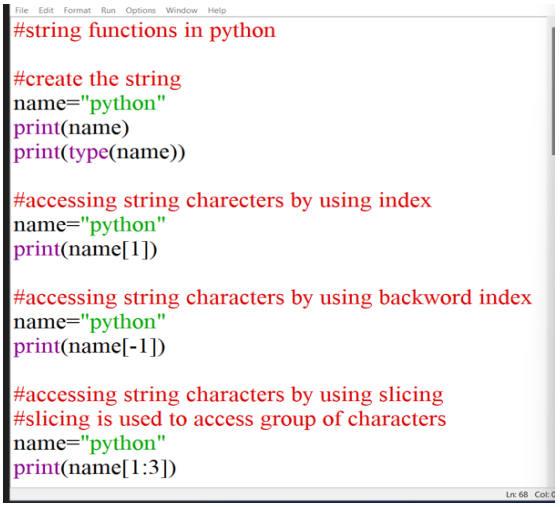
```
Python 3.10.2 (tags/v3.10.2:a58ebcc, Jan 17 2022
, 14:12:15) [MSC v.1929 64 bit (AMD64)] on wi
n32
Type "help", "copyright", "credits" or "license()" f
or more information.
>>>
========== RESTART: C:/Users/Gangadha
r/Desktop/cds/number 1-100.py ==========
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 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
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100
>>>
```

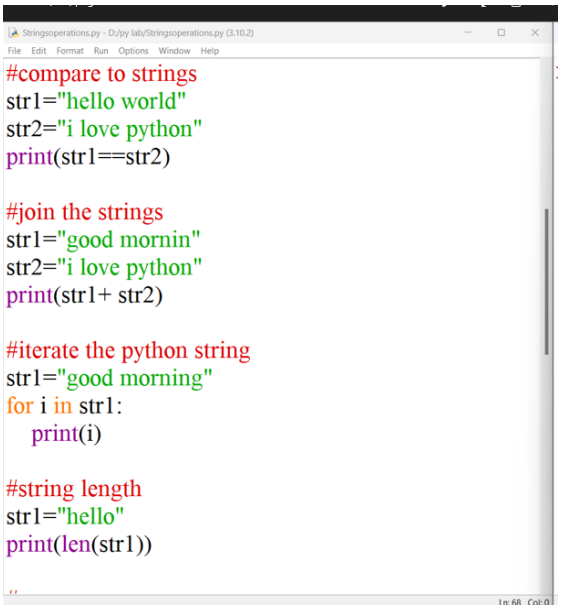
3. Check biggest among 3 numbers in python program.

```
a=int(input("enter a number"))
b=int(input("enter b number"))
c=int(input("enter c number"))
if (a>b) and (a>c):
    print("a is big")
elif (b>a) and (b>c):
    print("b is big")
else:
    print("c is big")
```



4. Create a Python program to perform the string operations by using string functions.





Screenshot (303).png
Stringsoperations.py - D:/py lab/Stringsoperations.py (3.10.2)
File Edit Format Run Options Window Help
print(name.startswith("wel"))
#endswith
name="welcome to python"
print(name.endswith("wel"))
#is numeric
pin="1234"
print(pin.isnumeric())
#is aplha
name="abcs"
print(name.isalpha())

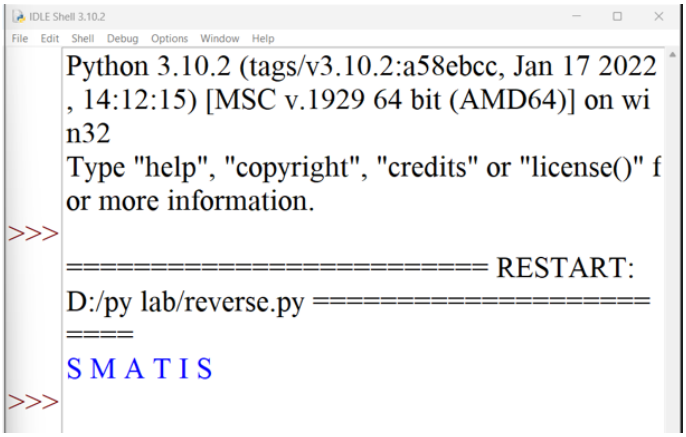
IDLE Shell 3.10.2
File Edit Shell Debug Options Window Help
>>>
========== RESTART: D:/py lab/Stringsoperations.py ==========
=
python
<class 'str'>
y
n
yt
False
good mornini love python
g
o
o
d
m
o
r
Ln: 32 Col: 0

```
>>>
========== RESTART: D:/py lab/Stringsoperations.py ==========
=
python
<class 'str'>
y
n
yt
False
good mornini love python
g
o
o
d

m
o
r
```

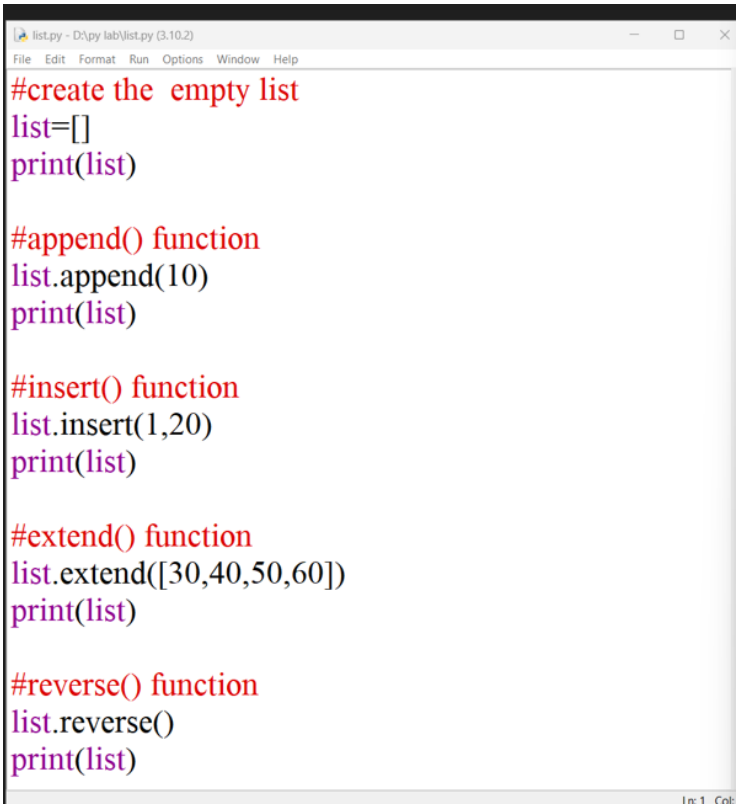
```
o
d

m
o
r
n
i
n
g
5
HELLO
hello
cat call
True
False
True
True
>>>
```

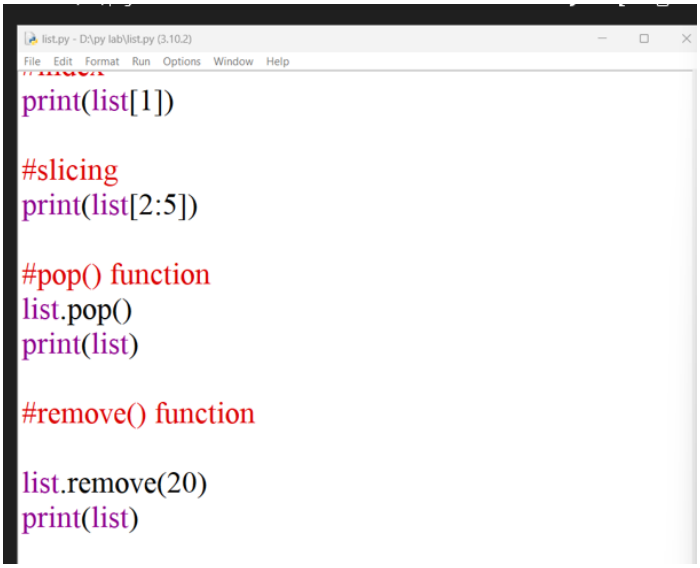
5. Create a python program to print the reverse of a given string.

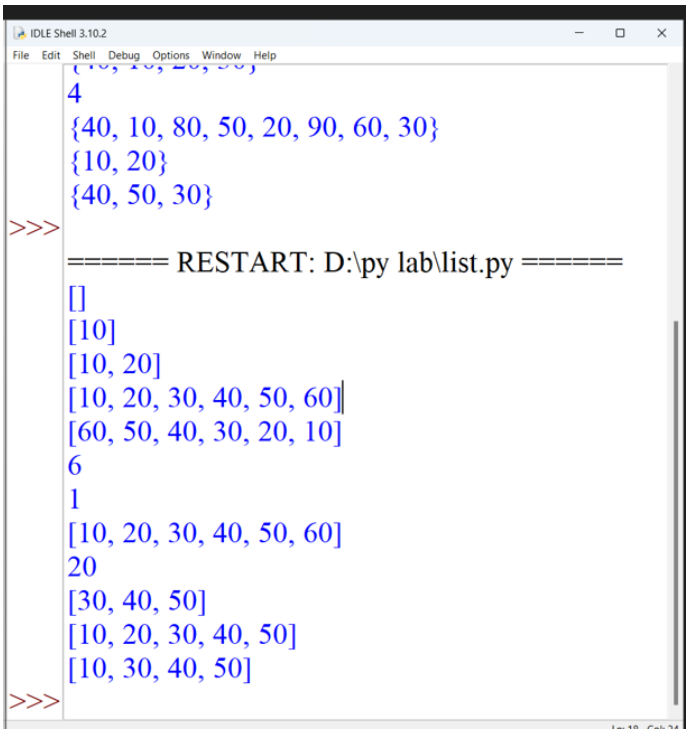
```
reverse.py - D:/py lab/reverse.py (3.10.2)
File  Edit  Format  Run  Options  Window  Help
s="SITAMS"
n=len(s)
i=-1
while i>=-n:
    print(s[i],end=' ')
    i=i-1
```

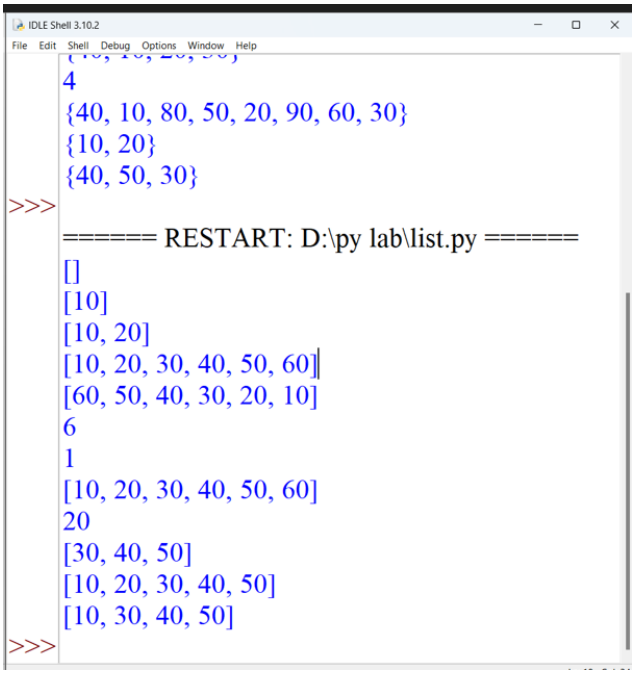


6. Create the lists and perform the different operations by using list functions.

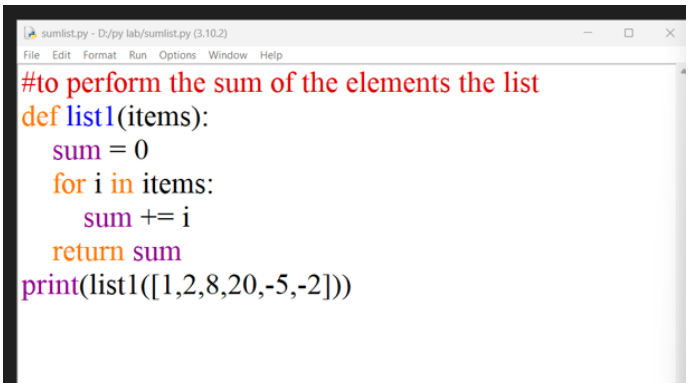


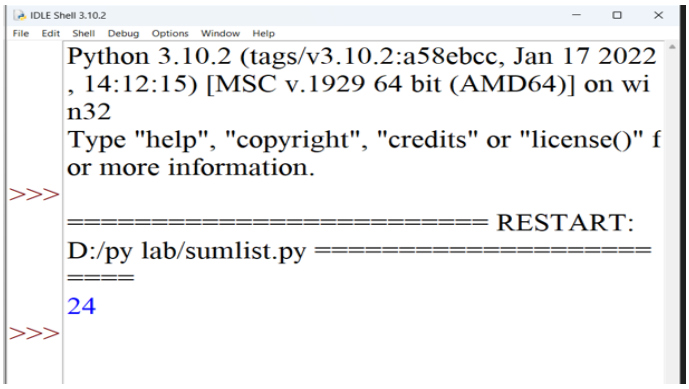

list.py - D:\py lab\list.py (3.10.2)
File Edit Format Run Options Window Help
print(list[1])
#slicing
print(list[2:5])
#pop() function
list.pop()
print(list)
#remove() function
list.remove(20)
print(list)


IDLE Shell 3.10.2
File Edit Shell Debug Options Window Help
4
{40, 10, 80, 50, 20, 90, 60, 30}
{10, 20}
{40, 50, 30}
>>>
====== RESTART: D:\py lab\list.py ======
[]
[10]
[10, 20]
[10, 20, 30, 40, 50, 60]
[60, 50, 40, 30, 20, 10]
6
1
[10, 20, 30, 40, 50, 60]
20
[30, 40, 50]
[10, 20, 30, 40, 50]
[10, 30, 40, 50]
>>>

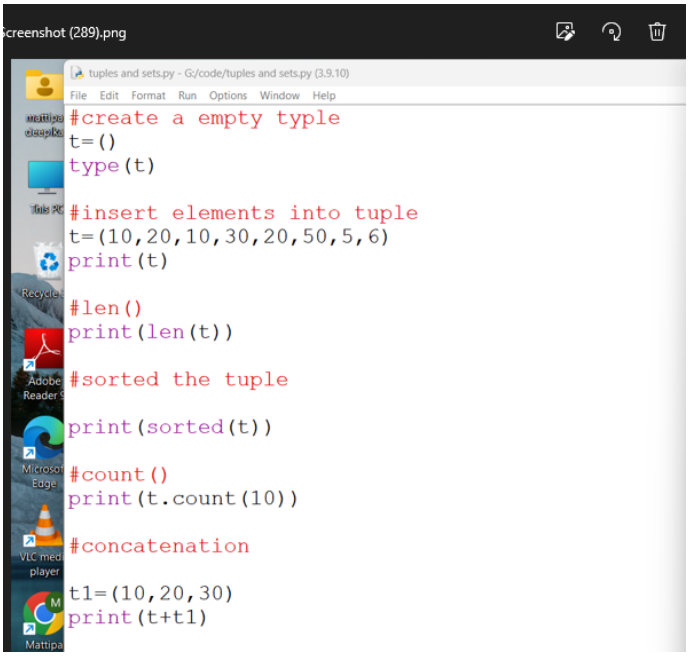


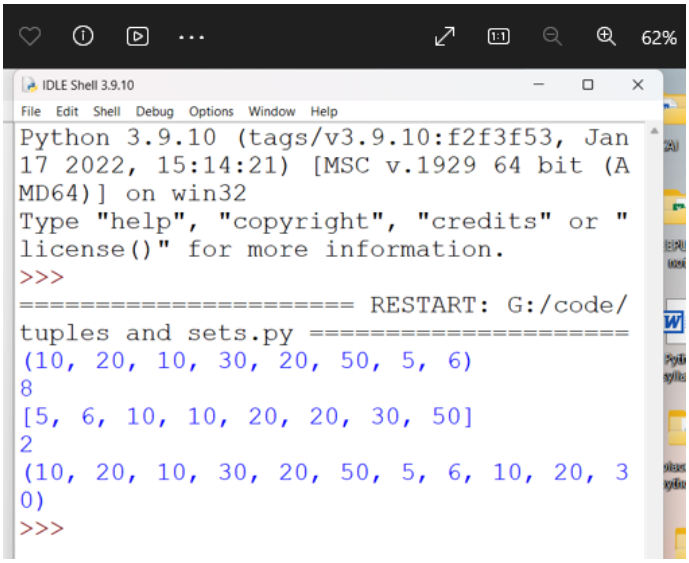
7. Create a python program by using functions to print the sum of elements in the lists.

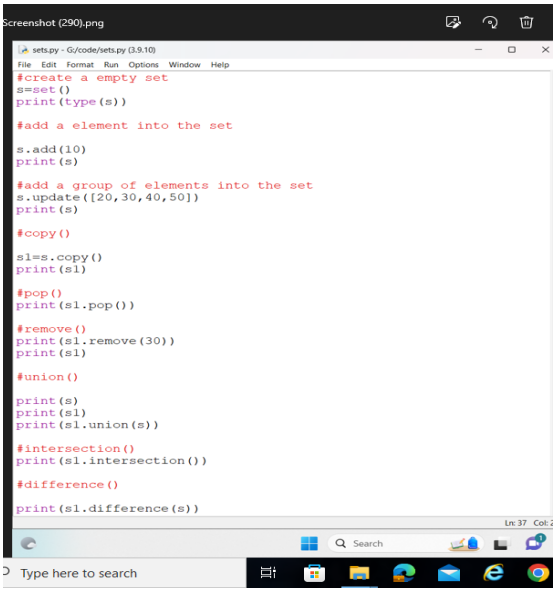


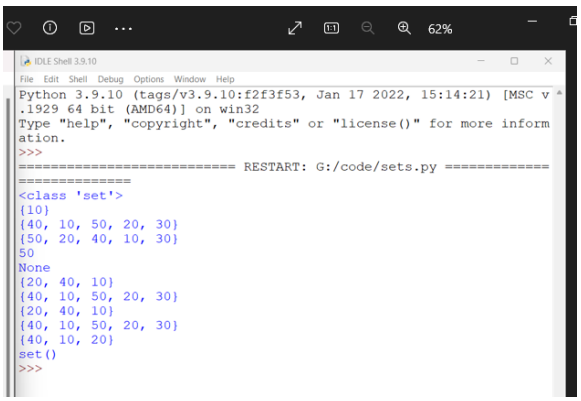


8. Create the tuple and set to perform different operations on tuple and sets by using tuple and set functions.

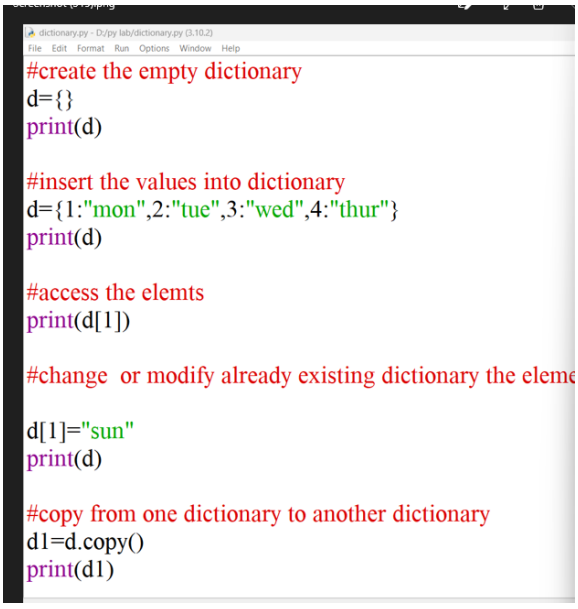








9. Create the dictionary to perform add, changing, updating the dictionary and to perform different operations.



Screenshot (316).png

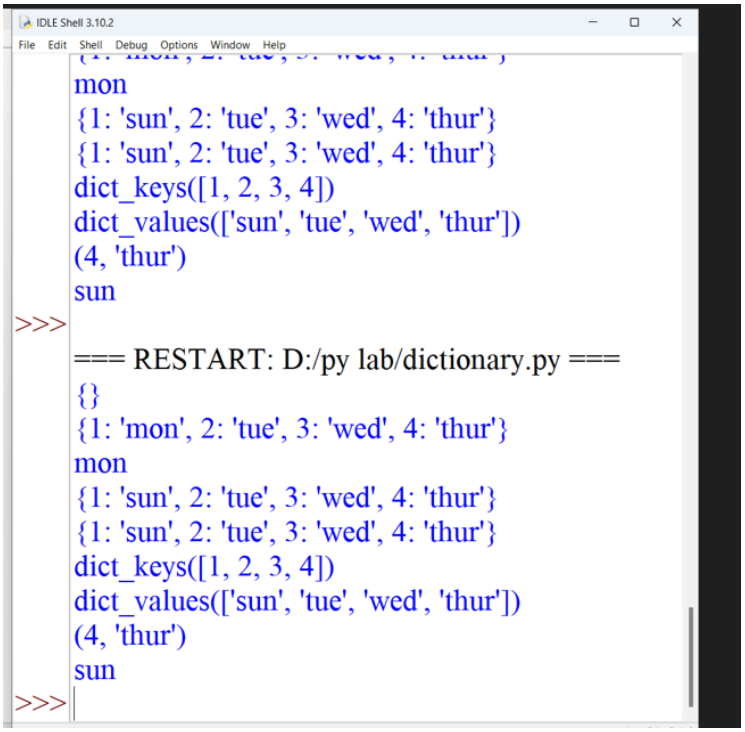
dictionary.py - D:/py lab/dictionary.py (3.10.2)
File Edit Format Run Options Window Help

```
#copy from one dictionary to another dictionary
d1=d.copy()
print(d1)

#access the keys

print(d1.keys())

#access the values
print(d1.values())

#popitem() in the dict
print(d1.popitem())

#pop()
print(d1.pop(1))
```

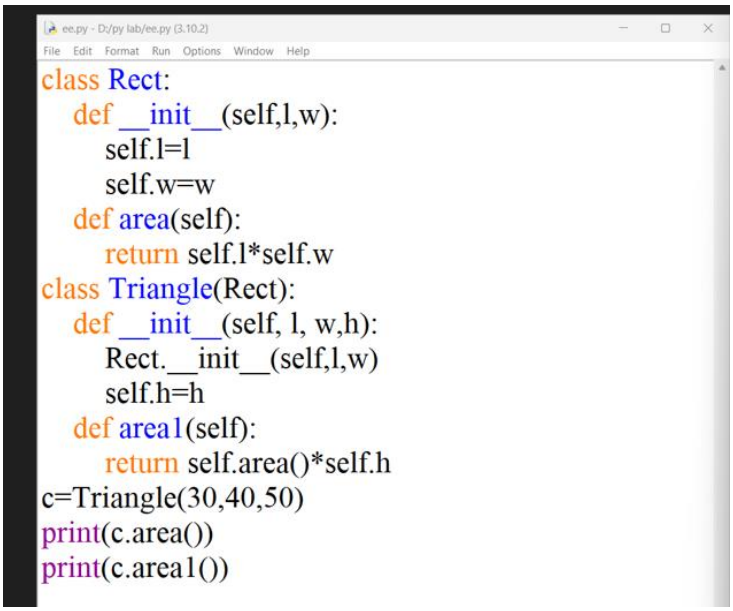
IDLE Shell 3.10.2
File Edit Shell Debug Options Window Help

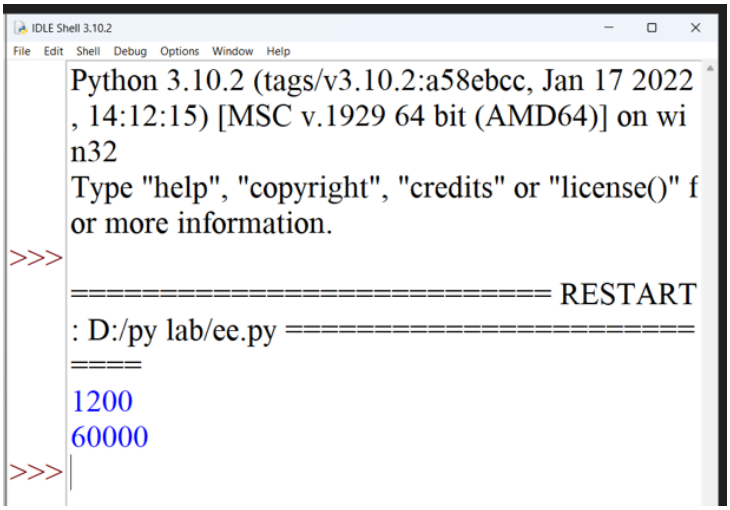
```
mon
{1: 'sun', 2: 'tue', 3: 'wed', 4: 'thur'}
{1: 'sun', 2: 'tue', 3: 'wed', 4: 'thur'}
dict_keys([1, 2, 3, 4])
dict_values(['sun', 'tue', 'wed', 'thur'])
(4, 'thur')
sun
>>>
=== RESTART: D:/py lab/dictionary.py ===
{}
{1: 'mon', 2: 'tue', 3: 'wed', 4: 'thur'}
mon
{1: 'sun', 2: 'tue', 3: 'wed', 4: 'thur'}
{1: 'sun', 2: 'tue', 3: 'wed', 4: 'thur'}
dict_keys([1, 2, 3, 4])
dict_values(['sun', 'tue', 'wed', 'thur'])
(4, 'thur')
sun
>>>
```

Ln: 134 Col: 0

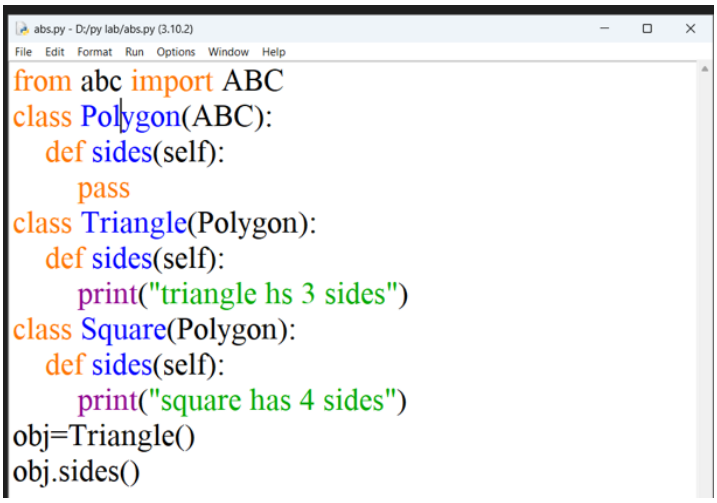


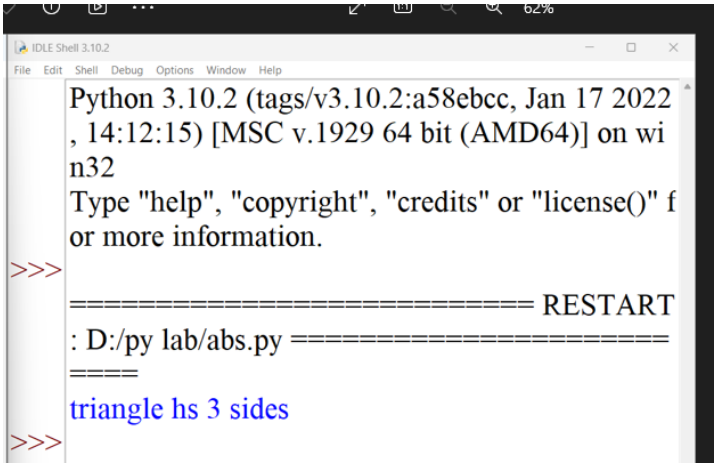
10. Create a python program to prints the area of rectangle and area of triangle by using inheritance.





11. Create a python program by using abstraction concept.





12. Perform method overriding in python program.

```
class Parent:
    def property(self):
        print("gold+land+cash")
    def m1(self):
        print("good morning")
class Child(Parent):
    def m1(self):
        print("good evening")
obj=Child()
obj.property()
obj.m1()
```

```
Python 3.10.2 (tags/v3.10.2:a58ebcc, Jan 17 2022
, 14:12:15) [MSC v.1929 64 bit (AMD64)] on wi
n32
Type "help", "copyright", "credits" or "license()" f
or more information.
>>>
========== RESTART: D:
/py lab/override.py ==========
===
gold+land+cash
good evening
>>>
```

13. Create a python program by using exception handing concepts.

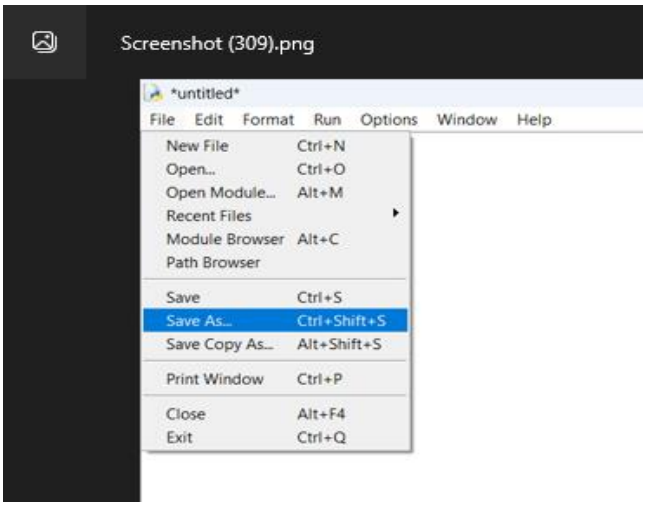
```
#exception handling

try:
    n=int(input("enter a number:"))
    d=int(input("enter anumber:"))
    res=n/d
    print(res)
except:
    print("the denaminator cant be zero please try again :"":it is
print("the program end")
```

```
Python 3.9.10 (tags/v3.9.10:f2f3f53, Jan 17 2022, 15:14:21) [MSC v
.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more inform
ation.
>>>
========== RESTART: G:/code/AE.py ==========
==========
enter a number:42
enter anumber:0
the denaminator cant be zero please try again ::it is zero divisio
n error
the program end
>>>
```

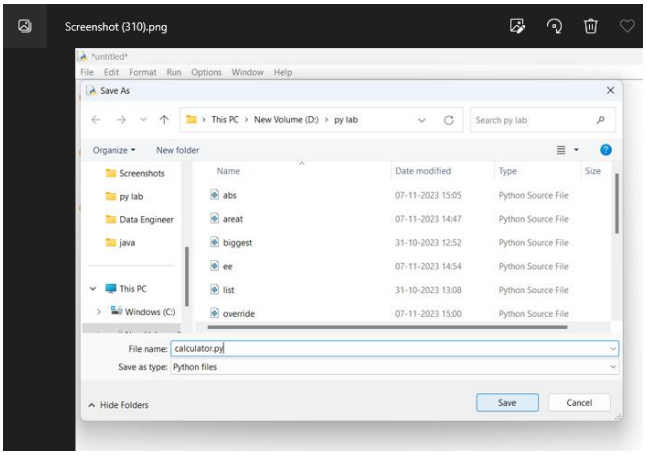
14. Create a custom module in python program.

Step - 1

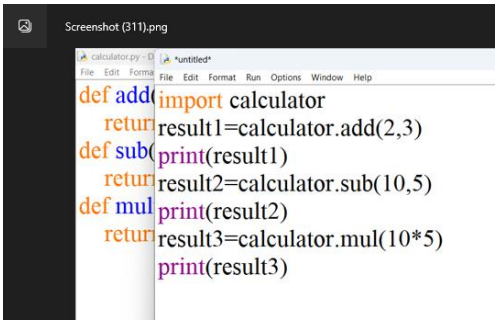
Step – 2



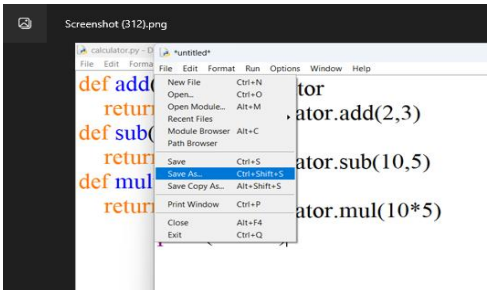
Step – 3



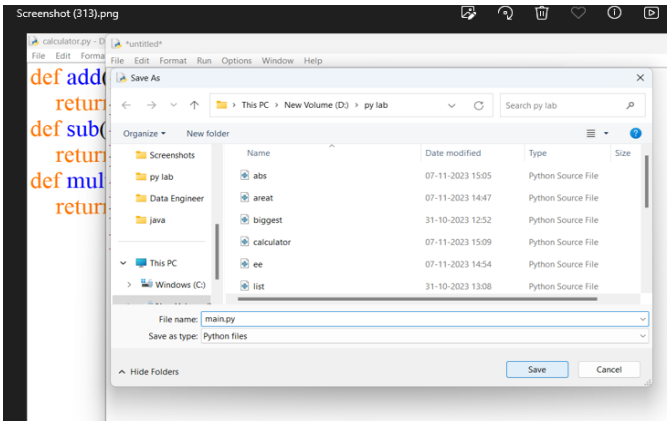
Step – 4



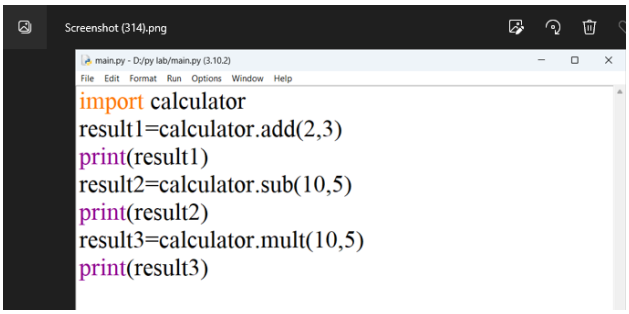
Step – 5

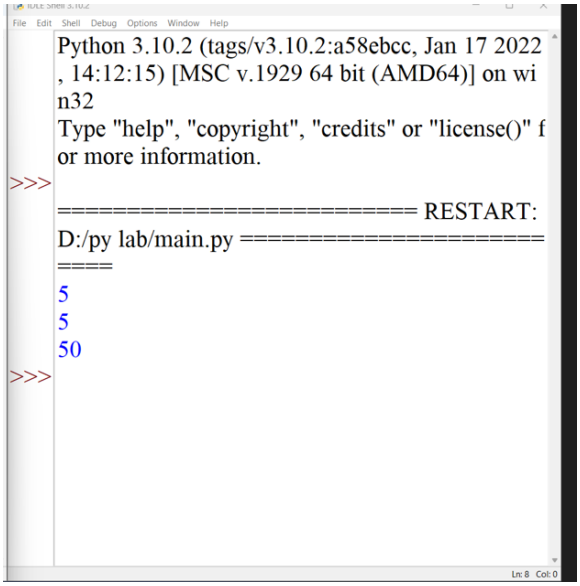
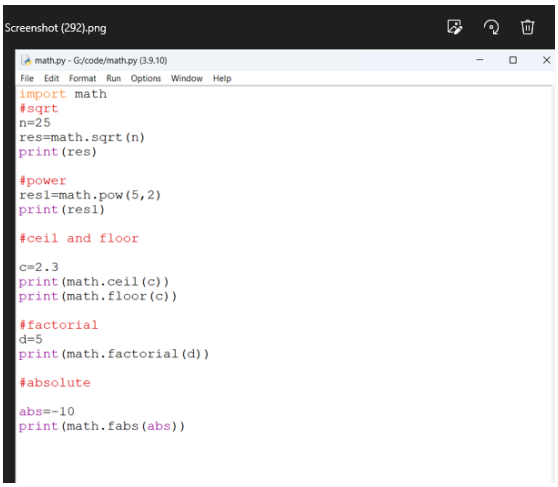


Step – 6



Step – 7





15. Perform the calculations by using math module in python program.