

## EXPERIMENT NO - 03

### CLASSES AND OBJECTS :-

=====**3.1**=====

```
class novel:
    name="UNTOLD STORY"
    author="CHETAN BHAGAT"
    price=2000
    def getname(self):
        print("NAME : ",self.name)
    @staticmethod
    def getprice():
        print("PRICE : ",novel.price)
    @classmethod
    def getauthor(cls):
        print("AUTHOR : ",cls.author)
    class moredetails:
        publication="MUMBAI PUBLICATIONS"
        def getpublication(self):
            print("PUBLICATIONS : ",self.publication)

n=novel()
n.getname()
n.getprice()
n.getauthor()
x=n.moredetails()
x.getpublication()
```

OUTPUT :

```
Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/dinesh/AppData/Local/Programs/Python/Python36-32/BOOK.py =
NAME :  UNTOLD STORY
PRICE :  2000
AUTHOR :  CHETAN BHAGAT
PUBLICATIONS :  MUMBAI PUBLICATIONS
>>>
```

=====**3.2**=====

#importing class

```

import math
class square():
    def __init__(self,side):
        self.side=side
    def area(self):
        return (self.side**2)
    def perimeter(self):
        return 4*self.side
r=int(input("ENTER SIDE OF A SQUARE : "))
obj=square(r)
print("AREA OF SQUARE IS :",obj.area())
print("PERIMETER OF SQUARE IS :",obj.perimeter())

```

OUTPUT :

```

Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\dinesh\AppData\Local\Programs\Python\Python36-32\BOOK.py =
ENTER SIDE OF A SQUARE : 5
AREA OF SQUARE IS : 25
PERIMETER OF SQUARE IS : 20
>>>

```

=====**3.3**=====

```

class A:
    def explore(self):
        print("EXPLORE() METHOD CALLED")
    def search(self):
        print("POLYMORPHISM")

class B:
    def search(self):
        print("SEARCH() METHOD CALLED")

class C:
    def discover(self):
        print("DISCOVER() METHOD CALLED")
    def discover(self):
        print("METHOD OVERLOADING")

```

```

class D(A, B, C):
    def test(self):
        print("TEST() METHOD CALLED")
    def search(self):
        print("METHOD OVERRIDING")

```

```

d_obj = D()
obj=A()
d_obj.explore()
d_obj.search()
obj.search()
d_obj.discover()
d_obj.test()
d_obj.search()

```

OUTPUT :

```

Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\dinesh\Downloads\exp3_3.py =====
EXPLORE() METHOD CALLED
METHOD OVERRIDING
POLYMORPHISM
METHOD OVERLOADING
TEST() METHOD CALLED
METHOD OVERRIDING
>>>

```

=====3.4=====

#ASSERTION ERROR

```

try:
    a=int(input("ENTER THE NUMBER BETWEEN 10 AND 50 : "))
    assert a>10 and a<=50
    print("ENTER YOUR NUMBER : ",a)
except AssertionError:
    print("THIS DOES NOT SATISFY THE CONDITION")

```

OUTPUT :

```

Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python36-32/exception-60.
PY
ENTER THE NUMBER BETWEEN 10 AND 50 : 45
ENTER YOUR NUMBER : 45
>>>
RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python36-32/exception-60.
PY
ENTER THE NUMBER BETWEEN 10 AND 50 : 60
THIS DOES NOT SATISFY THE CONDITION
>>>

```

#NORMAL EXCEPTION ERROR

```
print("INDEX OUT OF BOUND ERROR")
```

```
try:
```

```
    b=str("HELLO EVERYONE..")
```

```
    print(b[10])
```

```
except LookupError:
```

```
    print("INDEX OUT OF BOUND ERROR")
```

```
else:
```

```
    print("THE WORD IS : ",b[10])
```

```
print(" ")
```

```
print("ARITHMETIC ERROR")
```

```
try:
```

```
    a = 5/0
```

```
    print(a)
```

```
except ArithmeticError:
```

```
    print("THIS DOES NOT SATISFY THE CONDITION")
```

```
else:
```

```
    print("ERROR HAVEN'T OCCURED")
```

```
print(" ")
```

```
print("VALUE ERROR")
```

```
try:
```

```
    x=float(input("ENTER A NUMBER : "))
```

```
except ValueError:
```

```
    print("THIS IS VALUE ERROR EXCEPTION")
```

```
print(" ")
```

```

print("INPUT OUTPUT ERROR")
try:
    name=input("ENTER NAME OF FILE : ")
    f= open(name, 'r')
except IOError:
    print("FILE NOT FOUND : ",name)
else:
    n= len(f.readlines())
    print(name,'HAS',n,'LINES')
    F.closes

```

OUTPUT :

```

Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:\Users\Admin\AppData\Local\Programs\Python\Python36-32\exception-60.
py
INDEX OUT OF BOUND ERROR
Y
THE WORD IS : Y

ARITHMETIC ERROR
THIS DOES NOT SATISFY THE CONDITION

VALUE ERROR
ENTER A NUMBER : 5
THIS IS VALUE ERROR EXCEPTION

INPUT OUTPUT ERROR
ENTER NAME OF FILE : DIVYA
FILE NOT FOUND : DIVYA
>>>

```

#USER DEFINED EXCEPTION

```

class Error(Exception):
    """Base class for other exceptions"""
    pass

class ValueTooSmallError(Error):
    """Raised when the input value is too small"""
    pass

class ValueTooLargeError(Error):
    """Raised when the input value is too large"""

```

```

pass

num=10

while True:
    try:
        i_num = int(input("ENTER A NUMBER : "))
        if i_num < num:
            raise ValueError
        elif i_num > num:
            raise ValueError
        break
    except ValueError:
        print("THIS VALUE IS TOO SMALL!")
    except ValueError:
        print("HIS VALUE IS TOO LARGE!")
print("CONGRATULATIONS!!!THIS VALUE IS CORRECT.")

```

OUTPUT :

```

Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\dinesh\AppData\Local\Programs\Python\Python36-32\BOOK.py =
ENTER A NUMBER : 5
THIS VALUE IS TOO SMALL!
ENTER A NUMBER : 20
HIS VALUE IS TOO LARGE!
ENTER A NUMBER : 10
CONGRATULATIONS!!!THIS VALUE IS CORRECT.
>>>

```