14/01/2021

Program No: 1

Aim : Python program to find area

```
def findArea(r):
    PI = 3.142
    return PI*(r*r);
num = float(input("Enter r value:"))
Print ("Area is %.6f" % findArea(num));
```

Result : The program has been executed and the output was verified.

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Output

Enter r value : 3

Area is 28.26000

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14/01/2021

Program No: 2

Aim: Python program to find square of a number

```
digit = int (input ("Enter an integer number"))
Square = digit * digit
Print (f" square of {digit} is {square}")
```

Result:

The program has been executed and output was verified.

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Output

Enter an integer number : 5
square of 5 is 25

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14/01/2021

Program No: 3

Aim: Python program to find largest among 3 numbers

```
num1 = float (input ("Enter first number"))
num2 = float (input("Enter second number"))
num3 = float (input("Enter third number"))

if (num1 > num2) and (num1 > num3):
    largest = num1
elif (num2 > num1) and (num2 > num3):
    largest = number2
else:
    largest = num3

Print ("The largest number is", largest)
```

Result:

The program has been executed and output was verified.

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Output

Enter first number : 4

Enter second number : 8

Enter third number : 10

largest number is 10.0

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26/01/2021

Program No: 4

Aim: Display future leap years from current year to a final year entered by user.

```
Print ("Enter Year")
endYear = int(input())
startYear = 2020
Print ("List of leap year")
For year in range (startYear, endYear):
    if (0==year%4) and (0!=year%100) or
      (0==year%400):
        Print (year)
```

Result:

The program has been executed and the output was verified.

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Output

Enter Year

2040

List of leap year

2020

2024

2028

2032

2036

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26/01/2021

Program No: 5

Aim: Python program to find square of N numbers

```
list1 = [10, 15, 25, 13, 9, 6]
for n in list1:
        square = n ** 2
        Print(n, "square is", square)
```

Result:

The program has been executed and output was verified.

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Output

10 square is 100

15 square is 225

25 square is 625

13 square is 169

9 square is 81

6 square is 36

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26/01/2021

Program No: 6

Aim: python program to find vowels in a String.

```
StringA = "I like to play every day"
Print (Given String :\n", StringA)

Vowels = "AaEeIiOoUu"
res = set ([each for each in StringA if each in
        Vowels])
Print ("The vowels present in the String:\n",
        res)
```

Result:

The program has been executed and output was verified.

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Output

Given String:
I like to play every day.

The vowels present in the string:
{ 'o', 'a', 'e', 'i', 'I' }

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16/01/2021

Program No: 7

Aim: python program to count the occurences of each word in a line of text

```
def word-count(str):
    counts = dict()
    words = str.split()
    for word in words:
        if word in counts:
            counts [word]+=1
        else:
            counts[word] =1
    return counts
Print(word_count ('one day a rabbit was boasting about how fast he could run.'))
```

Result:

The program has been executed and the output was verified.

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Output

{'one':1, , 'day':1, 'a':1, 'rabbit':1
'was':1 'boasting':1 'about':1
'how':1 'fast':1 'he':1 'could':1
'run':1}

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26/01/2021

Program No: 8

Aim: Python program to create a list of first names and count the occurence of 'a' within the list

```
a=['ammu', 'appu', 'amal', 'abhi']
str1 = (' ', join(a))
count =0
for i in str1:
        if i=='a'
            count = count+1

Print ("count of a in the list is " + str(count))
```

Result:

The program has been executed and the output was verified.

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Output

count of a is the last is 5

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26/01/2021

Program No: 9

Aim: Python program to create 2 list of integers and check whether list are of same length.

```
list1 = [8, 10, 15, 13, 16, 20, 25, 10, 13, 5, 4, 16]
list2 = [16, 4, 5, 13, 10, 25, 20, 16, 13, 15, 10, 8]
len1 = len(list1)
len2 = len(list2)
if len1 == len2:
    Print('Both list have equal length')
else:
    Print('Both list doesnt have equal length')
```

Result:

The program had been executed and output was verified.

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Output

Both list have equal length

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26/01/2021

Program No: 10

Aim: Python program to create 2 list of integers and check whether list sums to same value.

```
list1 = [13, 15, 17, 12, 14, 16, 10, 12, 15, 14, 16]
list2 = [16, 14, 15, 12, 10, 16, 14, 12, 17, 15, 13]
total1 = sum(list1)
total2 = sum(list2)
 if total1 == total2:
        Print ('Both list have equal sum')
else:
    Print ('Both list doesnt have equal sum')
```

Result:

The program has been executed and the output was verified.

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Output

Both list have equal sum.

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26/01/2021

Program No: 11

Aim: Python program to create 2 list of integers and check whether any value occur in both

```
list1 : [10, 12, 14, 16, 18, 11, 13, 15, 17, 19, 12, 15]
list2 : [10, 12, 14, 16, 18, 11, 13, 15, 17, 19, 12, 15]
for value in list1:
    if value in list2:
        common = 1

if common == 1:
    Print ("There are common element")
else :
    Print ("No common elements")
```

Result:

The program has been executed and output was verified.

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Output

There are common element

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26/10/2021

Program No: 12

Aim: Python program to get a string from an input string where all occurrences of first character replaced with '$' except first character

```
def change-char (str1):
    char = str1[0]
    str1 = str1.replace (char, '$')
    str1 = char + str1[1:]
    return str1

Print (change-char ('restart'))
```

Result:

The program has been executed and the output was verified.

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Output

restart

Scanned by TapScanner

26/01/2021

Program No: 13

Aim: Python program to create a string from given string where first and last characters exchanged.

```
def change-string (str1):
    return str1[-1:] + str1[1:-1] + str1[:1]

Print (change-string ('mango'))
```

Result:

The program has been executed and the output was verified.

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Output

oangm

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26/01/2021

Program No: 14

Aim: Python program to accept the radius from user and find area of circle.

```
from math import pi
r=float(input("input the radius of the
    circle"))
print("The area of the circle with radius" +
    str(r)+" is "+str(pi*r**2))
```

Result:

The program has been executed and the output was verified

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Page

Output

input the radius of the circle : 5

The area of the circle with radius 5.0 is
78.5398

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26/01/2021

Program No: 15

Aim: Python program to accept an integer n and compute n+nn+nnn

```
a = int(input("input an integer:"))
n1 = a
n2 = a* a
n3 = a* a * a
Print (n1 + n2 + n3)
```

Result:

The program has been executed and the output was verified.

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Output

Input an integer : 8

584

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26/Jul/2021

Program No: 16

Aim: Python program to sort dictionary in ascending and descending order

```
import OrderedDict
d = {1:2, 6:7, 3:4, 2:1, 4:3, 7:6, 0:0}
Print('Original dictionary:', d)
Sorted_d = sorted(d.items(), key=operator.
        itemgetter(1))
Print('Dictionary in ascending order by values:',
        sorted_d)
Sorted_d = OrderedDict(sorted(d.items(), key=operator.
        itemgetter(1), reverse=True))
Print('Dictionary in descending order by values',
        sorted_d)
```

Result:

The program has been executed and the output was verified.

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Output

original dictionary :
{1:2, 6:7, 3:4, 2:1, 4:3, 7:6, 0:0}

Dictionary in ascending order by value :
{0:0, 2:1, 1:2, 4:3, 3:4, 7:6, 6:7}

Dictionary in descending order by value :
{6:7, 7:6, 3:4, 4:3, 1:2, 2:1, 0:1}

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26/01/2021

Program No: 17

Aim: Python program to merge to dictionaries

```
def Merge (dict1, dict2):
    return dict2.update (dict1))

dict1 = {'a' : 4,    'b' : 8 }
dict2 = {'c' : 2 ,   'd' : 6}

Print (Merge (dict1, dict2))
Print (dict2)
```

Result: 7

The program has been executed and the output was verified.

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Output

None

{'c': 2 'd': 6 'a': 4 'b': 8}

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26/01/2021

Program No: 18

Aim : Python program to find gcd of 2 numbers

```
def gcd(a,b):
    #Everything divides 0
    if (b==0)
        return a
    return gcd(b, a%b)

a = 45
b = 15
if gcd(a,b):
    Print('GCD of', a, 'and' b, 'is', gcd(a,b))
else:
    Print('Not found')
```

Result :

The program has been executed and the output was verified.

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Output

LCO of 45 and 15 is 15

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26/01/2021

Program No: 19

Aim: Python program to create a list of integers and removing even numbers.

```
list =[11, 22, 33, 44, 55, 66, 77, 88, 99]
Print (list)
  for i in list:
      if (i % 2 == 0):
          list.remove (i)

Print ("List after removing Even number:",
      (List))
```

Result:

The program has been executed and the output was verified.

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Output

[11, 22, 33, 44, 55, 66, 77, 88, 99]

List after removing Even number:
[11, 33, 55, 77, 99]

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3/02/2021

Program No: 20

Aim : Python program to find the factorial of a number

```
num = int input("Enter a number: ")
factorial = 1
if num < 0:
    Print ("Sorry, factorial does not exist for
        negative number")
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)
```

Result:

The program has been executed and output was verified.

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Output

Enter your number: 4

factorial of 4 is 24.

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03/02/2021

Program No: 21

Aim: Python program to generate fibonacci Series of N terms.

```
def recur_fibo(n):
    if n<=1:
        return n
    else:
        return(recur_fibo(n+1)+recur_fibo(n-2))
nterms = int(input("How many terms?:"))
if nterms<=0:
    Print("Please enter a positive integer")
else:
    Print("Fibonacci Sequence:")
    for i in range(nterms):
    Print(recur_fibo(i))
```

Result:

The program has been executed and the output was verified.

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Output

How many terms ?: 5

Fibonacci sequence:

0

1

1

2

3

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03/02/2021

Program No: 22

Aim: Python program to find the sum of all items in a list

```
numbers = [2, 4, 6, 8, 10]
Sum = sum(numbers]
Print (sum)
```

Result:

The program has been executed and the output was verified

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Output

30.

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03/02/2021

Program No: 23

Aim: Python Program to generate a list of digit numbers in a given range with all their digits even and the number is perfect square

```
num1 = int(input("Enter a number:"))
num2 = int(input("Enter a number:"))
for i in range(num1, num2+1)
 for j in range(32, 100+1):
If  i==j*j
    String = str(i)
    If int(string[0])%2==0 and
      int(string[1])%2==0 and
      int(string[2])%2==0 and
      int(string[3])%2==0

Print(i)
```

Result:

The program has been executed and the output was verified.

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Output

Enter a numbed : 4

Enter a numbed : 5

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03/02/2021

Program No: 24.

Aim: Python program to display a pyramid

```
lines = int(input("Enter a number:"))
i = 1
j = 1
while i<=lines:
    j = 1
    while j<=1
        temp = i*j
        Print(temp, end=' ', flush=True)
        Print(" ", end=' ', flush=True)
        j = j+1;
    Print(" ");
    i = i+1;
```

Result:

The program has been executed and the output was verified.

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Output

```
Enter a number : 4

1
2  4
3  6  9
4  8  12  16
```

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3/02/2021

Program No: 25

Aim :- Python program to count the number of characters in a string.

```
def char-frequency(str1):
    dict = {}
    for n in str1:
        keys = dict.keys()
        if n in keys:
            dict[n] += 1
        else:
            dict[n] = 1
        return dict
print(char_frequency("hellow world"))
```

Result :

The program has been executed and the output was verified.

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Output

{ 'h' = 1 'e' = 1 'l' = 3 'o' = 2 'w' = 2

'r' = 1 'd' = 1 }

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3/02/2021

Program No: 26.

Aim: Python program to add 'ing' at the end of a given string. If already ends with 'ing', then add 'ly'.

```
def add_string(str1):
    length = len(str1)

    if length > 1:
        if str1[-3:] == 'ing'
            str1 += 'ly'
    else:
        str1 += 'ing'
    return str1
```

Result:

The program has been executed and the output was verified.

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Output

c doing

c doingly

Scanned by TapScanner

3/02/2021

Program No: 27

Aim: Python program to accept a list of words and returns length of longest word.

```
def find(word):
    wl = []
    for n in word:
        wl.append((len(n), n))
    wl.sort()
    result = wl[-1][0], wl[-1][1]
    Print("longest word:", result[1])
    Print("length of the longest word",
                                result[0])
Find(["hellow", "instagram", "hi"])
```

Result:

The program has been executed and the output was verified.

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Output

longest word : Instagram

length of the longest word : 9.

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17/02/2021

Program No: 28

Aim: Python program to construct nested loop

```
def star():
    n=5
    for i in range(n):
        for j in range(i):
            Print("*", end =" ")
        print(" ")
    for i in range(n, 0, -1):
        for j in range(i):
            Print("*", end=" ")
        Print(" ")

star()
```

Result:

The program has been executed and the output was verified.

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17/02/2021

Program No: 29.

Aim : Python program to generate all factors of a number.

```
def Print_factors (x):
    Print("The factors of ", x, "are")
    for i in range (1, x+1):
        if x % i==0:
            Print (i)
Print_factors (234)
```

Result :

The program has been executed and the output was verified.

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Output

The factors of 234 are:

1

2

3

6

9

13

18

26

39

78

117

234.

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17/02/2021

Program No: 30.

Aim: Python program to write lambda functions to find area of square, rectangle and triangle.

```
Print ('Enter the length of a side of
        square')
s = int (input (" Enter your value"))
Print ('Enter the length and breadth of
        rectangle')
l = int (input ("Enter your value"))
b = int (input ("Enter your value"))
Print ('Enter the base and height of triangle')
b = int (input ("Enter your value"))
d = int input ("Enter your value"))
x = lambda s: s * s
y = lambda l,b : l * b.
t = 0.5
z = lambda h,d, t: h * t * d.
Print ("Area of square is :", x(s))
Print ("Area of rectangle", y(l,b))
Print (" Area of triangle", z(h,d,t))
```

Result: The program has been executed and the output was verified.

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Date
Page

1

Output

Enter the length of a side of square
Enter your value: 5
Enter the length and breadth of
rectangle
Enter your value: 4
Enter your value: 6
Enter the base and height of traingle
Enter your value: 4
Enter your value: 8

Area of square is 25
Area of rectangle is 24.
Area of triangle is 16.0.

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17/02/2021

Program NO: 31

Aim: Python program to create rectangle class with attributes length and breadth and methods to find area and perimeter. Compare two rectangle objects by their area

```
class Rectangle
    def __init__(self, l, b)
        self.length = l.
        self.breadth = b
    def area (self):
        return self.length * self.breadth
    def perimeter (self):
        return 2 * (self.length + self.breadth)
    def cmp (self, obj):
        if self.area() > obj.area():
            Print ('Rectangle with length = ', self.length
            and 'breadth = ', self.breadth, 'has the
            greater area')
        elif self.area() < obj.area():
            Print ('Rectangle with length = ', obj.length
            'and breadth = ', obj.breadth, 'has the
            greater one')
```

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Output

Rectangle with length = 9
and
breadth = 3 has the greeted
area.

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17/02/2021

Program No: 32.

Aim: Python program to create a bank account with members account number, name, type of account and balance. Write to constructor and method to deposite at the bank and withdraw an amount from the bank.

```
class BankAccount:
    def __init__(self, a, n, t, b):
        self.acno = a
        self.name = n
        self.type = t
        self.bal = b
    def deposit(self, a):
        self.bal += a
        Print('Rs.', a, 'deposited! current balance
        is: Rs.', self.bal)
    def withdraw(self, a):
        if self.bal >= a:
            self.bal -= a
            Print('Rs.', a, 'withdraw! current
            balance is Rs.", self.bal)
    else:
```

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```
        Point('insufficient balance to make
              this transition!')
a = int(input('Enter account number'))
n = input('Enter name of the account
          holder')
t = input('Enter account type:')
b = float(input('Enter your balance'))
acc1 = BankAccount(a, n, t, b)
acc1.deposit(float(input('Enter amount
             to deposit:')))
acc1.withdraw(float(input('Enter
              amount to withdraw:')))
```

Result :

The program has been executed and the output was verified.

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Date
Page

Ourput

Enter account number : 1025469301 00
Enter name of the account
holder : Ammu.
Enter account type : Personal.
Enter your balance : 2000
Enter amount to deposit : 3000
Rs. 3000.0 deposited! current balance
is Rs. 5000.0.
Enter amout to withdraw : 4000.
Rs. 4000.0 withdrawl! current balance is
Rs. 1000.0.

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17/02/2021

Program No: 33.

Aim: Python program to create a clan Rectangle with private attributes length and width. overload '<' operator to compare the area of 2 rectangles.

```
Class Rectangle:
    def __init__(self, l, w):
        self.__length = l
        self.__width = w.
        self.area = self.__width * self.__length
    def __lt__(self, other):
        if self.area < other.area:
            Print('Rectangle with length=',
    self.__width=', self.__width,' has the
    lesser area!')
elif other.area < self.area:
    Print('Rectangle with length =' other.__
    length,'and width =', other.__width,' has
    the lesser area!')
else:
    Print('They have equal area!')
```

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```
l = float (input ('Enter length of 1st rectangle'))
w = float (input ('Enter width of 1st
                  rectangle:'))
R1 = Rectangle (l, w)
l = float (input ('Enter length of 2nd
                  rectangle'))
w = float (input ('Enter width of 2nd
                  rectangle'))
R2 = Rectangle (l, w)

R1 < R2
```

Result:

The program has been executed and the output was verified.

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Page

Output

```
Enter length of 1st rectagle :4
Enter width of 1st rectagle : 6

Enter length of 2nd rectangle: 3
Enter width of 2nd rectangle: 6

Rectangle with length = 3 and
width = 6 has the lesser area.
```

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17/12/2021

Program No: 34.

Aim: Python program to create a class Time with private attribute hours, minute and seconds, overload '+' operator to find sum of 2 time.

```
class Time:
    def __init__(self, hh=0, mm=0, ss=0):
        self.__hour = hh
        self.__minute = mm.
        self.__second = ss
    def __add__(self, other):
        second = int((self.__second + other.__
            second) % 60)
        minute = int((self.__minute + other.__
            minute) % 60 + ((self.__second +
            other.__second) / 60)).
        hour = int(self.__hour + other.__hour) % 24,
            + (self.__minute + other.__minute) / 60)
Print ('Time [hh,mm,ss]' hour, ':', minute,
    ':', second].
T1 = Time(12, 25, 45)
T2 = Time(16 45 56)
```

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T1 + T2

Result:

The program had been executed and the output was verified.

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Output

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12/2021

Program No: 35

Aim: Python program to create a class publisher (name). Derive class Book from publisher with attributes title and author. Derive class python from Book with attribute price and no-of-pages. Write a program to that display informations about a python book. Use base class constructor invocation and method overriding.

```
class Publisher:
    def __init__(self, name1):
        self.name = name1
    def show(self):
        pass
class Book(Publisher):
    def __init__(self, title1, author1, name1):
        self.title = title1
        self.author = author1
        Publisher.__init__(self, name1)
def show(self):
    pass
```

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```
class python (Book ):
    def --init--(self, p, no, title1, author1,
                 name1):
        self. price = p
        self. no-of-pages =no
        Book.__init__(self, title1, author1, name1)
def show (self):
    Print('Book title:', self.title)
    Print ('Author:', self.author)
    Print ('Publisher:', self. publisher)
    Print ('Price: Rs.', self. Price)
    Print ('No. of pages', self. no. of pages)
P1 = Python (999-99, 400, programming
    with python', 'George Eliot', 'ABC BOOKS')
P1. show ()
```

Result :

The program has been executed and the output was verified.

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Output

Book title : Programming with python
Author : George Eliot
Publisher : ABC Books
Price : Rs. 999.99
No. of pages : 400

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21/02/2021

Program No: 36

Aim: Python program to read a file line by line and store it into a list

```
def file_read (fname):
    with open (fname) as f:
        # content_list is the list that
contains the read lines
    c = f.readlines()
    Print(c)
    # Print(len(c))

file_read ("demo.txt")
```

Result

The program has been executed and the output was verified.

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21/02/2021

Program No: 37

Aim : Python program to copy odd lines of one file to other.

```
a = open ('demo.txt', 'r')
b = open ('t.txt', 'w')
c = a.readlines()

for i in range (0, len (c)):
    if (i % 2 != 0):
        b.write (c[i])

else:
    Pass
b.close
b = open ('t.txt', 'r')
d = b.read()
print (d)
a.close()
b.close()
```

Result :

The program has been executed and the output was verified.

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21/02/2021

Program No: 38

Aim: python program to read each row from a given csv file and print a list of strings.

```
import csv
with open('dep.csv', newline='') as csvfile:
    d = csv.reader(csvfile, delimiter=' ',
    quotechar='|')
    for r in d
        print(', '.join(r))
```

Result:

The program has been executed and the output was verified.

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21/02/2021

Program No: 39

Aim: Python program to read specific column of a given csv file and print the content of the columns.

```
import csv
with open('c1.csv', newline='') as csvfile:
    d=csv.DictReader(csvfile)
    Print("authors original_title")
    for r in d:
        print(r['author'], r['original_title'])
```

Result:
The program has been executed and the output was verified.

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Output

author's	original_title
Suzanne Collins	The hunger games
J.K Rowling, Mary Grandpre	Harry potter and the philosopher stone -
stephenie Meyer	Twilight

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21/02/2021

Program No: 40.

Aim: Python program to write a python dictionary to a csv file. After writing the csv file read the csv file and display the content

```
import csv
field_names =['best_book_id', 'author',
              'original_title']
book = [
    {
'best_book_id': 1, 'authors': 'suzanne collins',
        'original_title': 'The hunger games'
    },
{
'bestbook_id': 2, 'authors': 'J. K Rowling',
        'Mary GrandPre', 'original-title':
        'Harry potter and the philosopher
        stone'
    },
{
'best_book_id': 3, 'author': 'stephenie Meyer',
    'original_title': 'Twinlight'
```

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```
    },
]

with open ('ci.csv', 'w') as csvfile:
    writter = csv.dictWritter(csvfile, fieldnames
            = field_name)
    writter.writeheader()
    writter.writerows(book)


with open ('G.csv', newline = '') as csvfile:
    d = csv.reader(csvfile, delimiter = '/')
    for r in d:
        Print (', '.join(r))
```

Result:

The program has been executed and the output was verified.

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Output

best_book_id, authors, original_title

1, Suzanne Collins, The hunger Games

2, "J.K Rowling, Mary GrandPre",
Harry potter and the philosopher
stone.

3, Stephenie Meyer, Twilight

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