

PRACTICAL : 01

Aim :- Develop programs to understand the control structures of python.

Practical 1.1:- Write a Python Program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700.

Program :-

```
for i in range(1500,2700):
```

```
    if i%7==0 and i%5==0:
```

```
        print(i,end=" ")
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.1.py =====  
=====  
1505  1540  1575  1610  1645  1680  1715  1750  1785  1820  1855  1890  
1925  1960  1995  2030  2065  2100  2135  2170  2205  2240  2275  2310  
2345  2380  2415  2450  2485  2520  2555  2590  2625  2660  2695
```

Practical 1.2 :- Write a Python program to construct the following pattern, using nested for loop.

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Program :-

```
for i in range(1,6):
    for j in range(1,i+1):
        print("*",end="")
    print()
for i in range(4,0,-1):
    for j in range(1,i+1):
        print("*",end="")
    print()
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.2.py =====
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Practical 1.3 :- Write a Python program that accepts a word from user and reverse it (without using the reverse function)

Program :-

```
str=input("Enter string which you wants to reverse :")
```

```
l=""
```

```
for i in str:
```

```
    l=i+l
```

```
print("Reverse string is : ",l)
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.3.py =====  
Enter string which you wants to reverse :vidhi  
Reverse string is : ihdiv
```

Practical 1.4 :- Write a Python program to check whether an alphabet is a vowel or consonant.

Program :-

```
ch = input("Enter the Alphetbet:")

if ch in ('a', 'e', 'i', 'o', 'u', 'A', 'E', 'I', 'O', 'U'):

    print(ch, "is a vowel")

else:

    print(ch, "is a consonant")
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\prac_1\p_1.4.py =====
Enter the Alphetbet:i
i is a vowel.
>>>
===== RESTART: D:\Vidhi\PDS Practical\prac_1\p_1.4.py =====
Enter the Alphetbet:z
z is a consonant.
```

Practical 1.5 :- Write a Python program to find reverse of given number.

Program :-

```
n=int(input("Enter number :"))  
a=0  
while(n>0):  
    r=n%10  
    a=(a*10)+r  
    n=n//10  
print("Reverse number :",a)
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.5.py =====  
Enter number :12334  
Reverse number : 43321  
|
```

Practical 1.6 :- Write a Python program to check whether the given no is Armstrong or not using.

Program :-

```
num = int(input("Enter a number: "))
```

```
sum = 0
```

```
temp = num
```

```
while temp > 0:
```

```
    digit = temp % 10
```

```
    sum += digit ** 3
```

```
    temp //= 10
```

```
if num == sum:
```

```
    print(num,"is an Armstrong number")
```

```
else:
```

```
    print(num,"is not an Armstrong number")
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\prac_1\p_1.6.py =====
Enter a number: 234
234 is not an Armstrong number
>>>
===== RESTART: D:\Vidhi\PDS Practical\prac_1\p_1.6.py =====
Enter a number: 407
407 is an Armstrong number
```

Practical 1.7 :- To write a Python program to find first n prime numbers.

Program :-

```
numr=int(input("Enter range:"))
print("Prime numbers:",end=' ')
for n in range(1,numr):
    for i in range(2,n):
        if(n%i==0):
            break
    else:
        print(n,end=' ')
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.7.py =====
Enter range:30
Prime numbers: 1 2 3 5 7 11 13 17 19 23 29
....
```

Practical 1.8 :- Write a Python program to print Fibonacci series upto n terms.

Program :-

```
r=int(input("Enter range : "))  
a=0  
b=1  
print("Fibonacci series : ")  
print(a,end=" ")  
print(b,end=" ")  
for i in range(2,r):  
    c=a+b  
    print(c,end=" ")  
    a=b  
    b=c
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.8.py =====  
Enter range : 10  
Fibonacci series :  
0 1 1 2 3 5 8 13 21 34
```


Practical 1.9 :- Give the output of following Python code:

a) `myStr = 'GTU is the best University'`
 `print myStr [15 : : 1]`
 `print myStr [-10 : -1 : 2]`

Program :-

```
mystr='GTU is the best university'
print(mystr[15::1])
print(mystr[-10:-1:2])
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.9.a.py =====
university
uiest
```

b) `t = (1, 2, 3, (4,), [5, 6])`
 `print t[3]`
 `t[4][0] = 7`
 `print t`

Program :-

```
t = (1, 2, 3, (4, ), [ 5, 6] )
print(t[ 3 ])
t[4][0] = 7
print(t)
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\prac_1\p_1.9.b.py =====
(4,)
(1, 2, 3, (4,), [7, 6])
```

c) `I=[(x, y) for x in [1,2,3] for y in [3,1,4] if x !=y]`
`print I`

Program :-

```
I=[(x,y) for x in [1,2,3] for y in [3,1,4] if x!=y]
print(I)
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.9.c.py =====
[(1, 3), (1, 4), (2, 3), (2, 1), (2, 4), (3, 1), (3, 4)]
```

d) `str1 = 'This is Pyhton'`
`print "Slice of String :", str1[1 : 4 : 1]`
`print "Slice of String :", str1[0 : -1 : 2]`

Program :-

```
str1='This is python'
print("Slice of String :",str1[1:4:1])
print("Slice of String :",str1[0:-1:2])
```

Output :-

```
===== RESTART: D:\Vidhi\PDS Practical\p_1.9.d.py =====
Slice of String : his
Slice of String : Ti spto
```