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PRACTICAL 1

AIM: Develop Programs to Understand the Control Structures, Branching Programs, Strings and Input of Python and functions.

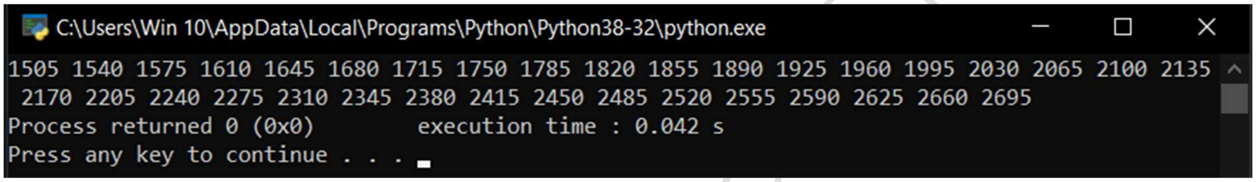
PRACTICAL 1.1

AIM: 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, 2701, 5):
    if i % 7 == 0:
        print(i, end=" ")
```

OUTPUT:



C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
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
Process returned 0 (0x0)        execution time : 0.042 s
Press any key to continue . . .
```

PRACTICAL 1.2

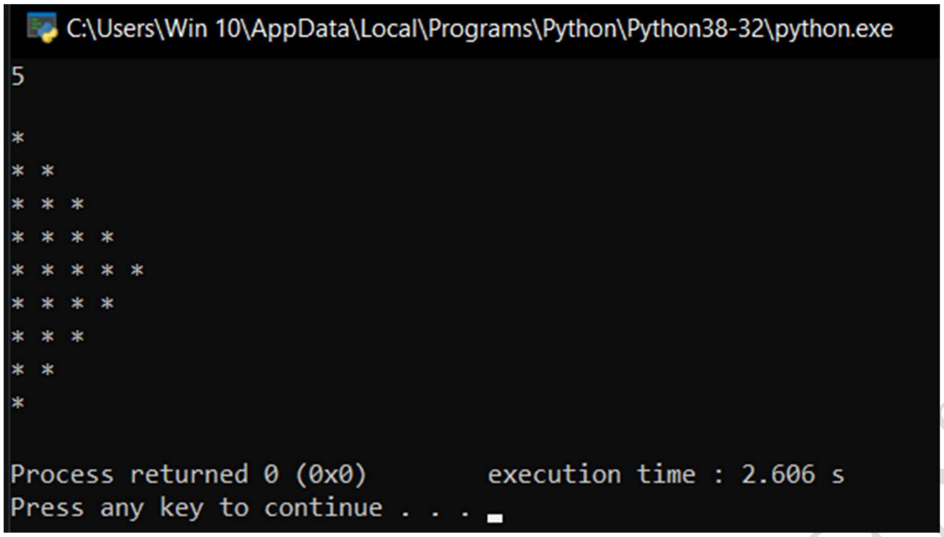
AIM: Write a Python program to construct the following pattern, using nested for loop.

```
*

* *

* * *

* * * *

* * * * *

* * * *

* * *

* *

*
```

PROGRAM:

```
def pattern(N):
    # forward triangle
    for i in range(0,N):
        for j in range(0, i+1):
            print("* ",end="")
        print()
    # backward triangle
    for i in range(1, N):
        for j in range(N, i, -1):
            print("* ", end="")
        print()

N = int(input())
print()
pattern(N)
```

OUTPUT:



C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
5

*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*

Process returned 0 (0x0)        execution time : 2.606 s
Press any key to continue . . .
```

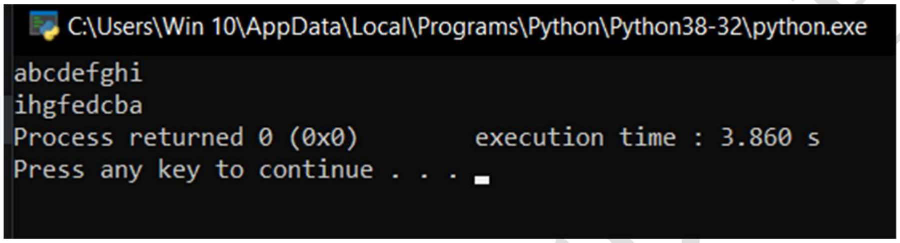
PRACTICAL 1.3

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

PROGRAM:

```
string = input()

for x in range(len(string)-1, -1, -1):
    print(string[x], end="")
```

OUTPUT:


C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
abcdefghi
ihgfedcba
Process returned 0 (0x0)        execution time : 3.860 s
Press any key to continue . . .
```

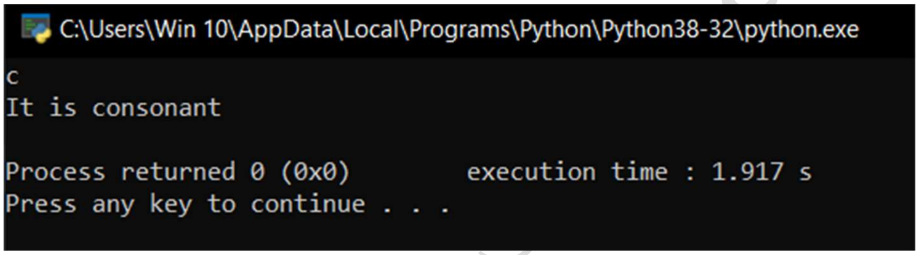
PRACTICAL 1.4

AIM: Write a Python program to check whether an alphabet is a vowel or consonant.

PROGRAM:

```
def check(char):
    vowels = ['a', 'e', 'i', 'o', 'u']
    if char in vowels:
        print("It is Vowel")
    else:
        print("It is consonant")

char = input()
check(char)
```

OUTPUT:



C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
c
It is consonant

Process returned 0 (0x0)        execution time : 1.917 s
Press any key to continue . . .
```

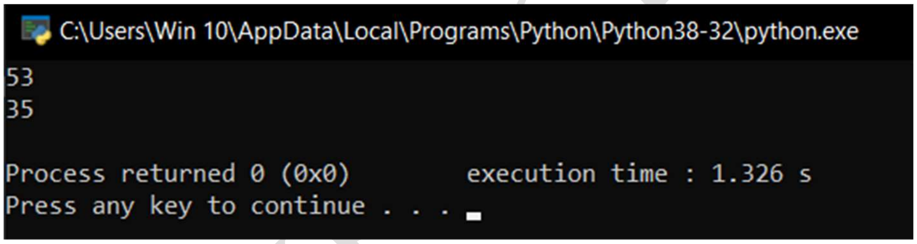
PRACTICAL 1.5

AIM: Write a Python program to find reverse of given number using user defined function.

PROGRAM:

```
def reverse(var):
    r = 0
    while var > 0:
        d = var % 10
        r = (r * 10) + d
        var = var // 10

    return r

N = int(input())
rev = reverse(N)
print(rev)
```

OUTPUT:


C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
53
35

Process returned 0 (0x0)        execution time : 1.326 s
Press any key to continue . . .
```

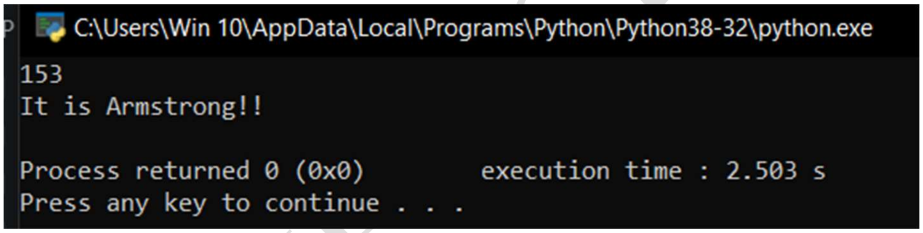
PRACTICAL 1.6

AIM: Write a Python program to check whether the given no is Armstrong or not using user defined function.

PROGRAM:

```
def armstrong(N):
    length = len(N)
    arm = 0
    for i in N:
        arm = arm + (int(i) ** length)

    if arm == int(N):
        print("It is Armstrong!!")
    else:
        print('It is not Armstrong!!')

N = input()
armstrong(N)
```

OUTPUT:



C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
153
It is Armstrong!!

Process returned 0 (0x0)        execution time : 2.503 s
Press any key to continue . . .
```

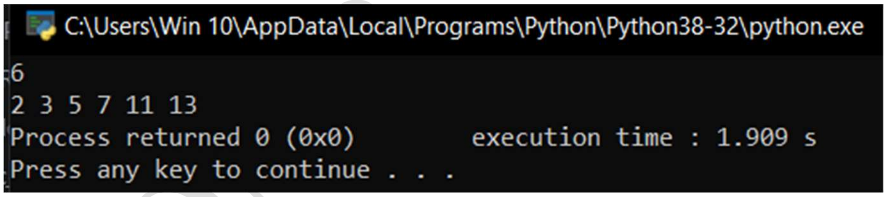
PRACTICAL 1.7

AIM: To write a Python program to find first n prime numbers.

PROGRAM:

```
def printprime(n):
    num = n - 1
    n = 3
    print("2 ", end="")
    # counts till first n
    while num > 0:

        # checks each prime number
        for i in range(2, (n//2)+1):
            if n % i == 0:
                n += 1
                break
        else:
            print(n, end=" ")
            num -= 1
            n += 1

N = int(input())
printprime(N)
```

OUTPUT:


C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
6
2 3 5 7 11 13
Process returned 0 (0x0)       execution time : 1.909 s
Press any key to continue . . .
```

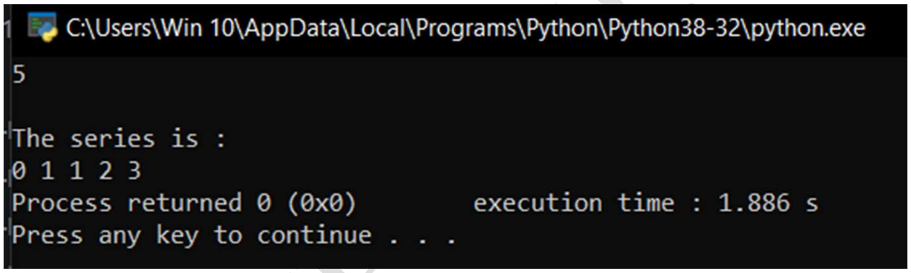
PRACTICAL 1.8

AIM: Write a Python program to print Fibonacci series upto n terms.

PROGRAM:

```
def fibo(n):
    a = 0
    b = 1
    print(a, b, end=" ")
    for _ in range(2, n):
        c = a + b
        print(c, end=" ")
        a = b
        b = c

N = int(input())
print("\nThe series is : ")
fibo(N)
```

OUTPUT:


C:\Users\Win 10\AppData\Local\Programs\Python\Python38-32\python.exe

```
5

The series is :
0 1 1 2 3
Process returned 0 (0x0)        execution time : 1.886 s
Press any key to continue . . .
```

PRACTICAL 1.9

AIM: Give the output of following Python code:

a)

```
myStr = ‘GTU is the best University’
print myStr [15 : : 1]
print myStr [-10 : -1 : 2]
```

OUTPUT:

```
 University
Uiest
```

b)

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

OUTPUT:

```
 (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
```

OUTPUT:

```
[(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]
```

OUTPUT:

```
Slice of String :  his
Slice of String :  Ti sPho
```