

Question.1 Write a program to take input from user and print the table of given number

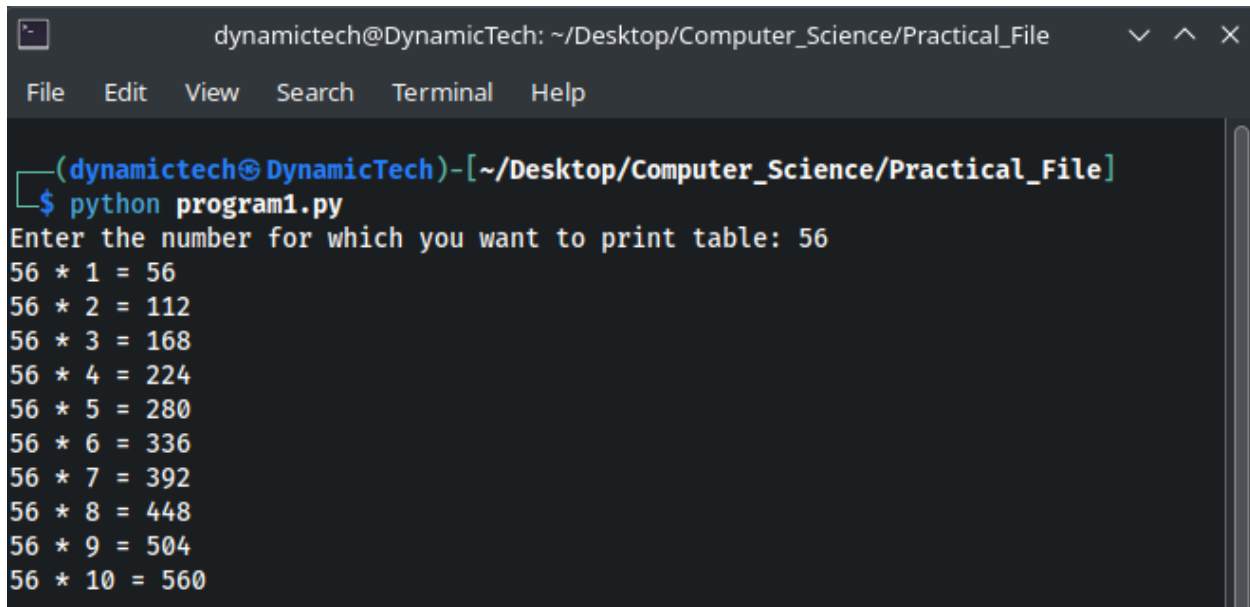
```
#Program to take input a number from user and print it's table

num = int(input("Enter the number for which you want to print table: "))

for i in range(1, 11, 1): # loop which gives values from 1 to 10

    print(num , "*", i, "=", num*i) # print the table
```

Output:



```
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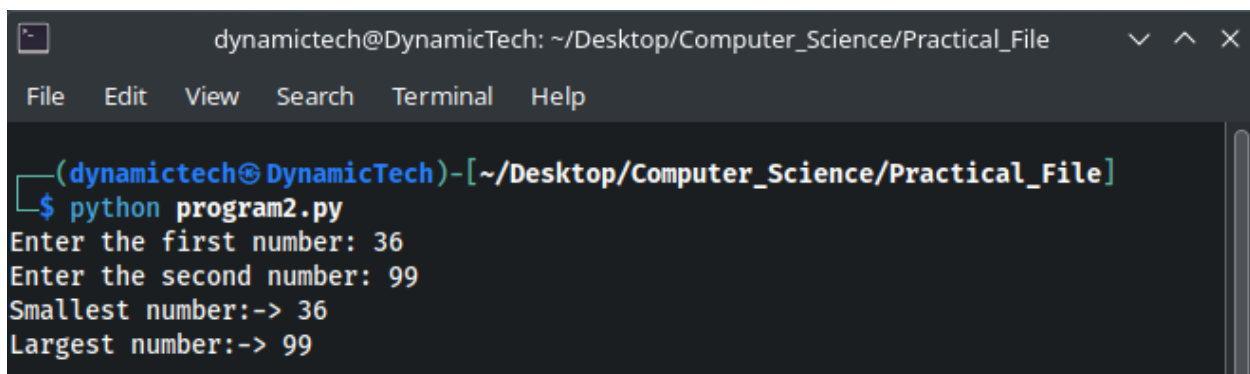
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program1.py
Enter the number for which you want to print table: 56
56 * 1 = 56
56 * 2 = 112
56 * 3 = 168
56 * 4 = 224
56 * 5 = 280
56 * 6 = 336
56 * 7 = 392
56 * 8 = 448
56 * 9 = 504
56 * 10 = 560
```

Question2. Write a program to take two number as input and print the larger and smaller number

Program to take two number as input from user and print the greater and smaller number among both.

```
num1 = int(input("Enter the first number: "))  
num2 = int(input("Enter the second number: "))  
  
if num1 < num2:  
    print("Smallest number:->", num1)  
    print("Largest number:->", num2)  
else:  
    print("Smallest number:->", num2)  
    print("Largest number:->", num1)
```

Output:



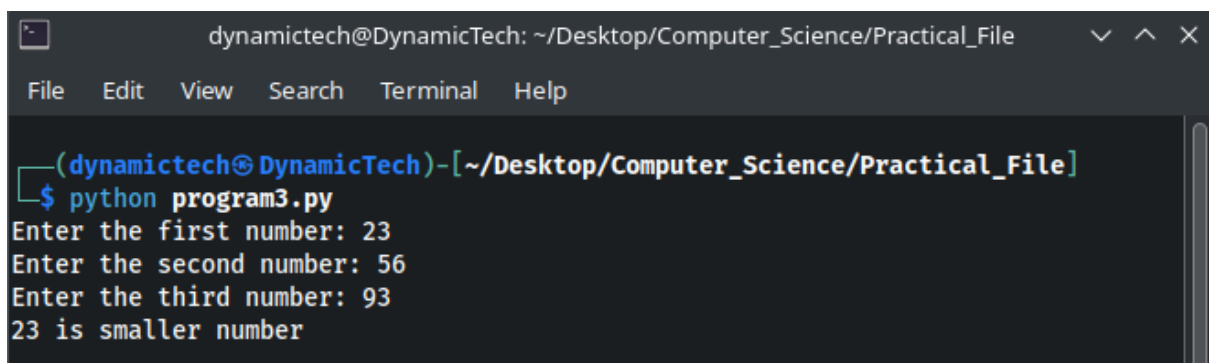
```
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(dynamictech@dynamicTech)-[~/Desktop/Computer_Science/Practical_File]  
$ python program2.py  
Enter the first number: 36  
Enter the second number: 99  
Smallest number:-> 36  
Largest number:-> 99
```

Question.3 Write a program to take 3 numbers as input and print the largest and smallest numbers

```
# Program to take 3 number as input from user and print the smaller  
and largest number
```

```
n1 = int(input("Enter the first number: "))  
n2 = int(input("Enter the second number: "))  
n3 = int(input("Enter the third number: "))  
  
if n1 < n2 and n1 < n3:  
    print(n1, "is smaller number")  
elif n2 < n1 and n2 < n3:  
    print(n2, "is smaller number")  
else:  
    print(n3, "is smaller number")
```

Output:



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File  
File Edit View Search Terminal Help  
  
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]  
$ python program3.py  
Enter the first number: 23  
Enter the second number: 56  
Enter the third number: 93  
23 is smaller number
```

Question.4 Write a program to print the value of following series

$1 + X + X^2 + X^3 + X^4 + \dots + X^n$

```
# Write a program to print the following series
```

```
n = int(input("Enter the value of n: "))
```

```
x = int(input("Enter the value of x: "))
```

```
a = 1
```

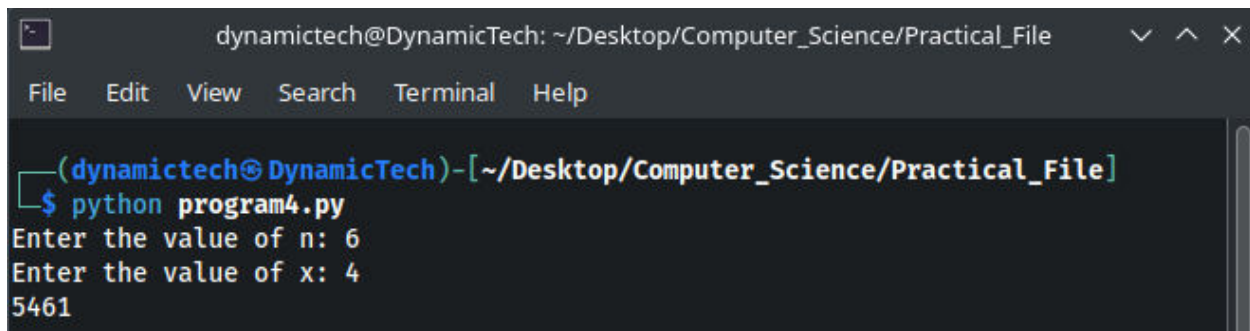
```
s = 0
```

```
for b in range(1, n+1, 1):
```

```
    s = s + x**b
```

```
print(1 + s)
```

Output:

A screenshot of a terminal window with a dark background. The title bar shows the user 'dynamictech' on a machine named 'DynamicTech', with the current directory being '~/.Desktop/Computer_Science/Practical_File'. The terminal has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The command prompt shows the user has run 'python program4.py'. The program prompts for 'Enter the value of n: 6' and 'Enter the value of x: 4'. The final output of the program is '5461'.

```
dynamictech@DynamicTech: ~/.Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program4.py
Enter the value of n: 6
Enter the value of x: 4
5461
```

Question.5 Write a program to print value following series

$1 - X + X^2 - X^3 + X^4 - \dots - X^n$

```
# Write a program to print following series
```

```
n = int(input("Enter the value of n: "))
```

```
x = int(input("Enter the value of x: "))
```

```
sign = -1
```

```
s = 0
```

```
for i in range(1, n+1, 1):
```

```
    if i%2 == 0:
```

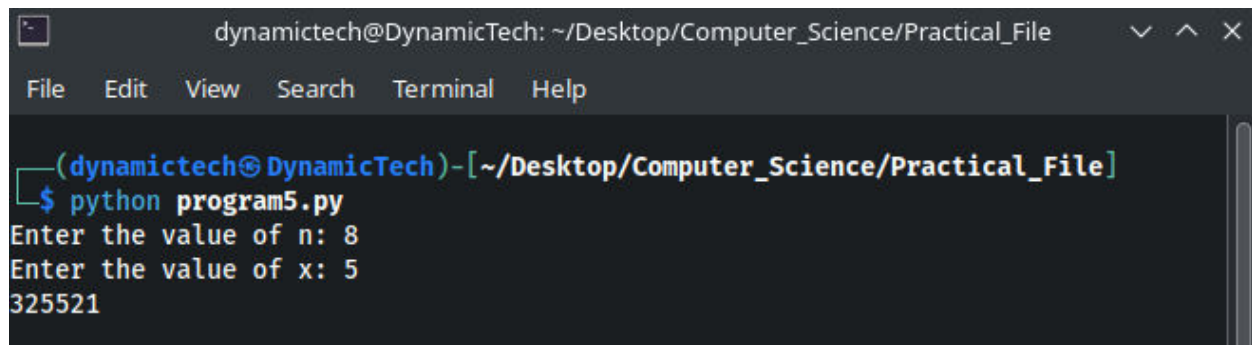
```
        s = s + (x**i)*sign
```

```
    else:
```

```
        s = s + (x**i)
```

```
print(1 - s)
```

Output:



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
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(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program5.py
Enter the value of n: 8
Enter the value of x: 5
325521
```

Question.6 Print following series

$X - \frac{2}{X} + \frac{3}{X} - \frac{4}{X} + \dots n/X$

Write a program to print following series

```
n = int(input("Enter the value of n: "))
```

```
x = int(input("Enter the value of x: "))
```

```
s = 0
```

```
sign = -1
```

```
for a in range(2, n+1):
```

```
    if (a % 2) == 0:
```

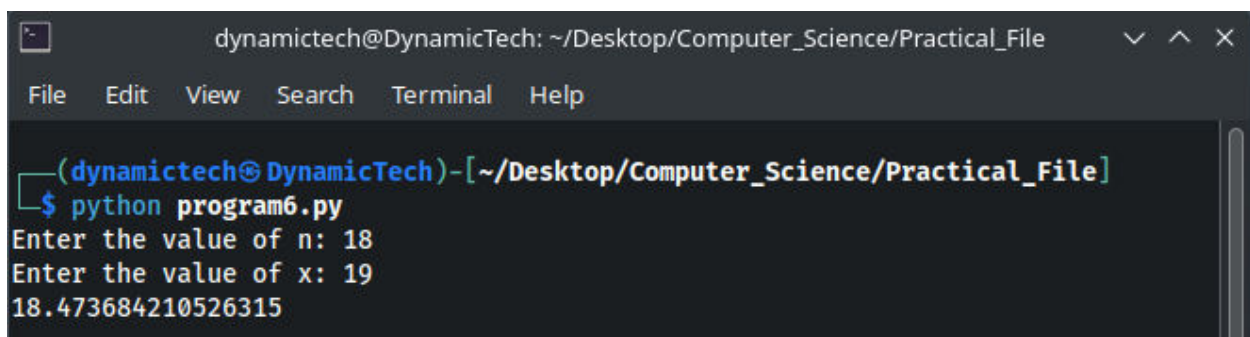
```
        s = s + ((a/x)*sign)
```

```
    else:
```

```
        s = s + (a/x)
```

```
print(x + (s))
```

Output:



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program6.py
Enter the value of n: 18
Enter the value of x: 19
18.473684210526315
```

Question.7 Print following series

$X + X^2/2 - X^3/3 + X^4/4 \dots X^n/n$

```
# Program to print following series

n = int(input("Enter the value of n: "))
x = int(input("Enter the value of x: "))

s = 1

sign = -1

for a in range(2, n+1, 1):

    if (a % 2) == 0:

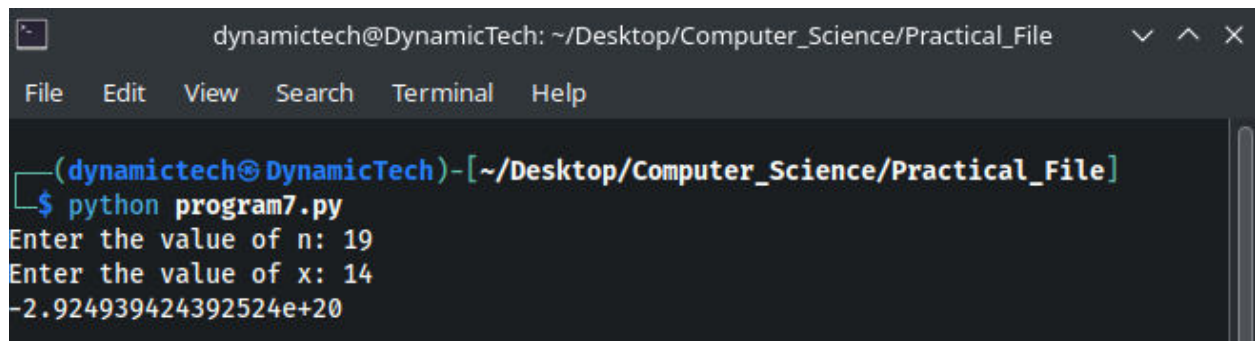
        s = s + (x**a)/a

    else:

        s = s + ((x**a)/a)*sign

print(x + (s))
```

Output:



```
dynamictech@dynamicTech: ~/Desktop/Computer_Science/Practical_File
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(dynamictech@dynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program7.py
Enter the value of n: 19
Enter the value of x: 14
-2.924939424392524e+20
```

Question.8 Write a program to print the sum of digits of entered number

```
# Program to take a number as input from user and print the sum of it's digits

num = int(input("Enter your number: "))

s = 0

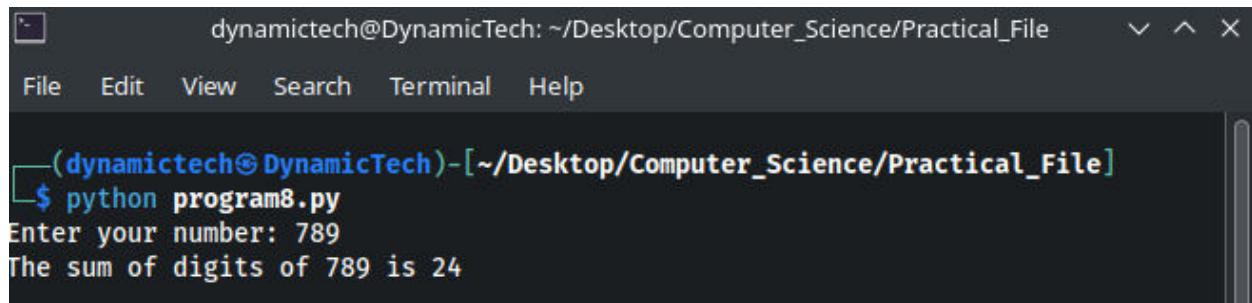
for a in str(num):

    a = int(a)

    s = s + a

print("The sum of digits of", num, "is", s)
```

Output:

A screenshot of a terminal window with a dark background. The title bar at the top reads 'dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File'. Below the title bar is a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal content shows a prompt '(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]' followed by the command '\$ python program8.py'. The program's output is displayed: 'Enter your number: 789' and 'The sum of digits of 789 is 24'.

```
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(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program8.py
Enter your number: 789
The sum of digits of 789 is 24
```


Question.9 Write a program to check whether a entered number is Armstrong or not

```
# Program to take a number as input from user and check it whether it is
    Armstrong or not

num = int(input("Enter the number to check Armstrong: "))

s = 0

for a in str(num):

    a = int(a)

    s = s + a**(len(str(num)))

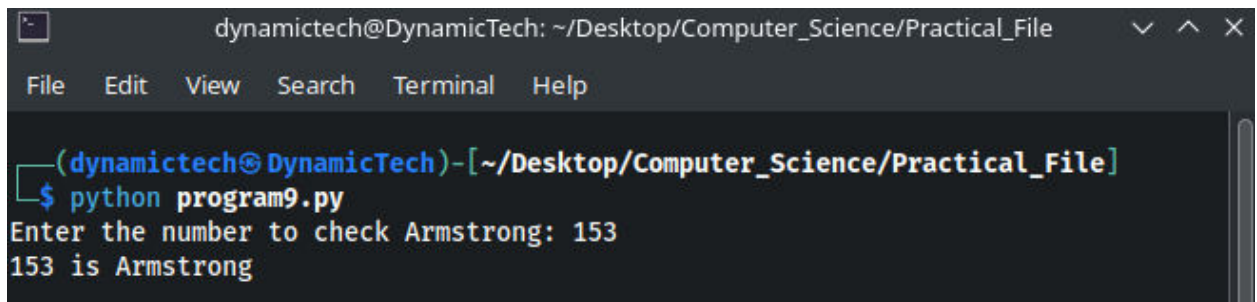
if s == num:

    print(num, "is Armstrong")

else:

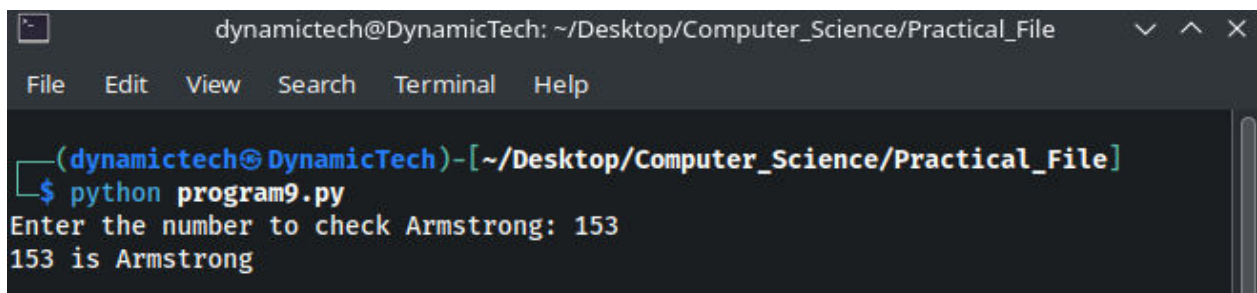
    print(num, "is not Armstrong")
```

Output:



```
dynamictech@dynamicTech: ~/Desktop/Computer_Science/Practical_File
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(dynamictech@dynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program9.py
Enter the number to check Armstrong: 153
153 is Armstrong
```



```
dynamictech@dynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help

(dynamictech@dynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program9.py
Enter the number to check Armstrong: 153
153 is Armstrong
```

Question.10 Write a program to check whether entered number is Palindrome or not

```
# Program to take a number as input and check it whether it is Palindrome or not

num = input("Enter the number to check Palindrome: ")

rev_str = num[::-1]

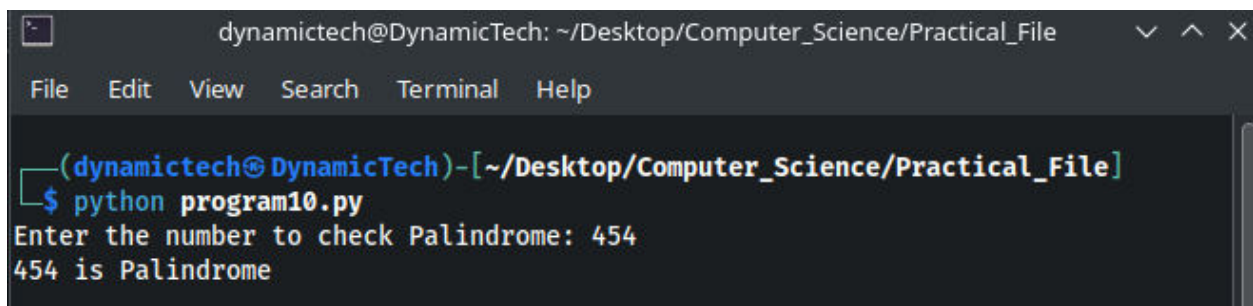
if rev_str == num:

    print(num, "is Palindrome")

else:

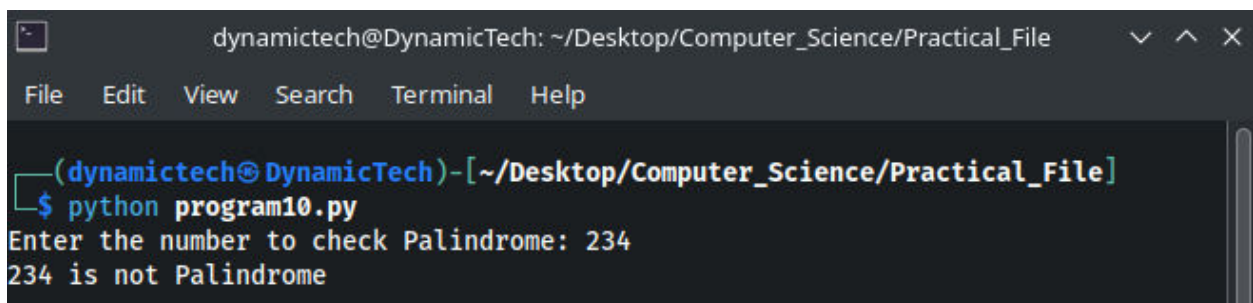
    print(num, "is not Palindrome")
```

Output:



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help

(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program10.py
Enter the number to check Palindrome: 454
454 is Palindrome
```



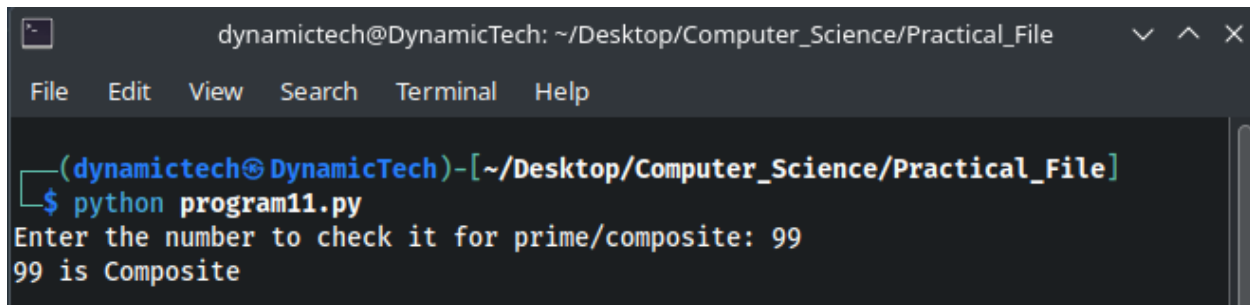
```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help

(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program10.py
Enter the number to check Palindrome: 234
234 is not Palindrome
```

Question.11 Write a program to check entered number is Prime or Composite

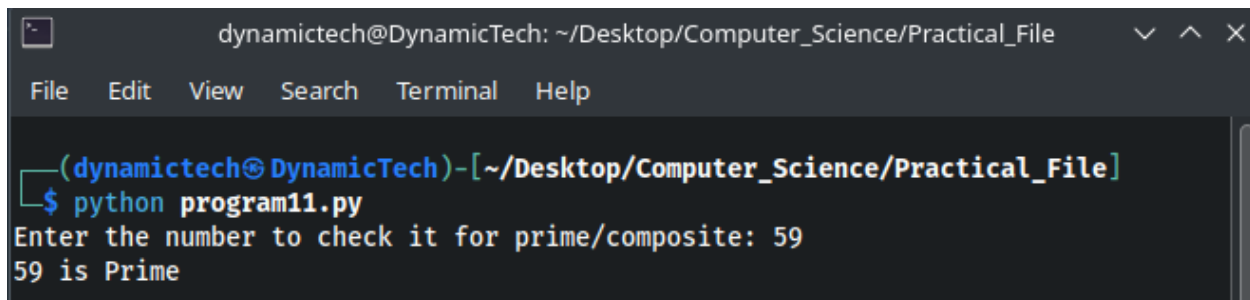
```
# Program to take a number as input from user and check
whether it prime or composite
num = int(input("Enter the number to check it for
prime/composite: "))
cnt = 0
if num > 1:
    for a in range(2, int(num/2), 1):
        if (num % a) == 0:
            print(num, "is Composite")
            break
    else:
        print(num, "is Prime")
else:
    print("Error")
```

Output:



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help

(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program11.py
Enter the number to check it for prime/composite: 99
99 is Composite
```



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help

(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program11.py
Enter the number to check it for prime/composite: 59
59 is Prime
```

Question.12 Print the Fabonacci series

0 1 1 2 3 5 8 13 21 34100

```
# Program to print Fibonacci series upto 100

# Fibonacci series-> 0 1 1 2 3 5 8 13 21 34 ----- 100

a = 0

b = 1

c = 0

print("The Fibonacci series is:")

print(a,b, end=" ")

while c<=100:

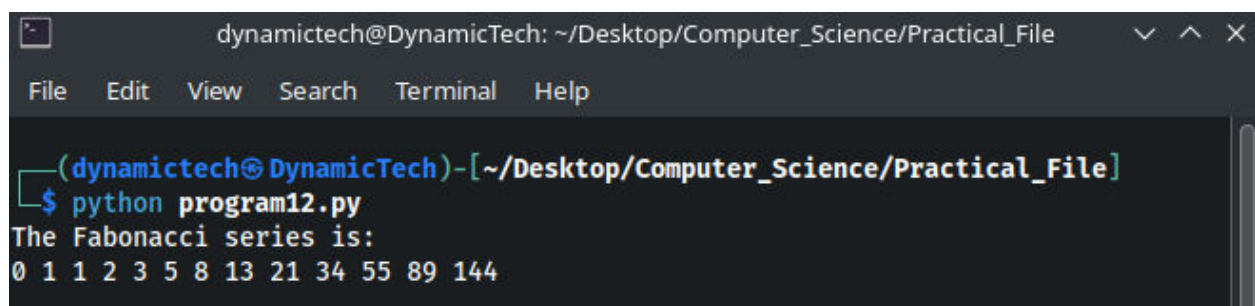
    c = a + b

    a = b

    b = c

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

Output:



The screenshot shows a terminal window with the title bar 'dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File'. The menu bar includes 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal prompt is '(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]'. The user has entered the command '\$ python program12.py'. The output of the program is 'The Fibonacci series is:' followed by the numbers '0 1 1 2 3 5 8 13 21 34 55 89 144' on the same line.

```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program12.py
The Fibonacci series is:
0 1 1 2 3 5 8 13 21 34 55 89 144
```

Question.13 Write a program to print following terms in entered string

1.Vowels 2. Consonents 3. Lowercase 4. Upper

```
# Program to take a string as input from user and print the following terms in
string and count also the occurance of the those terms.
```

```
'''
```

```
1. Vowels 2. Consonents 3. Lowercase 4. Uppercase
```

```
'''
```

```
s = input("Enter the string: ")
```

```
vow = "aeiou"
```

```
cons = "bcdfghjklmnpqrstvwxyz"
```

```
lc = uc = vow_occ = cons_occ = 0
```

```
for i in s:
```

```
    for v in vow:
```

```
        if i.upper() == v.upper():
```

```
            vow_occ += 1
```

```
    for c in cons:
```

```
        if i.upper() == c.upper():
```

```
            cons_occ += 1
```

```
    if i.islower():
```

```
        lc += 1
```

```
    elif i.isupper():
```

```
        uc += 1
```

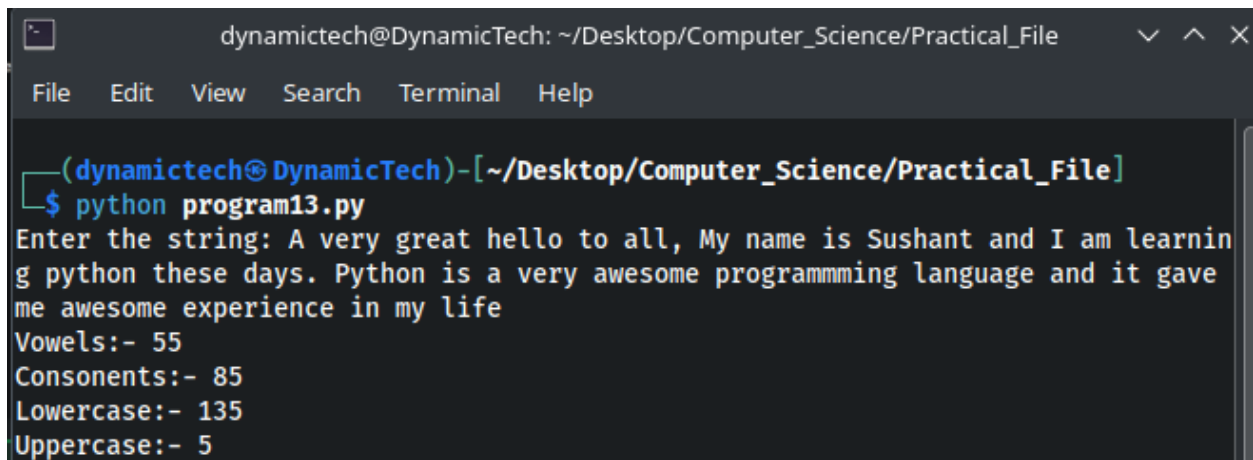
```
print("Vowels:-", vow_occ)
```

```
print("Consonents:-", cons_occ)
```

```
print("Lowercase:-", lc)
```

```
print("Uppercase:-", uc)
```

Output:



The screenshot shows a terminal window titled "dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File". The terminal contains the following text:

```
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]  
$ python program13.py  
Enter the string: A very great hello to all, My name is Sushant and I am learning  
python these days. Python is a very awesome programming language and it gave  
me awesome experience in my life  
Vowels:- 55  
Consonents:- 85  
Lowercase:- 135  
Uppercase:- 5
```

Question.14 Write a program to check whether a entered string is Palindrome or not

```
# Program to take a string as input from user and check whether it is Palindrome or not
```

```
st = input("Enter the string to check Palindrome: ")
```

```
rev_st = st[::-1]
```

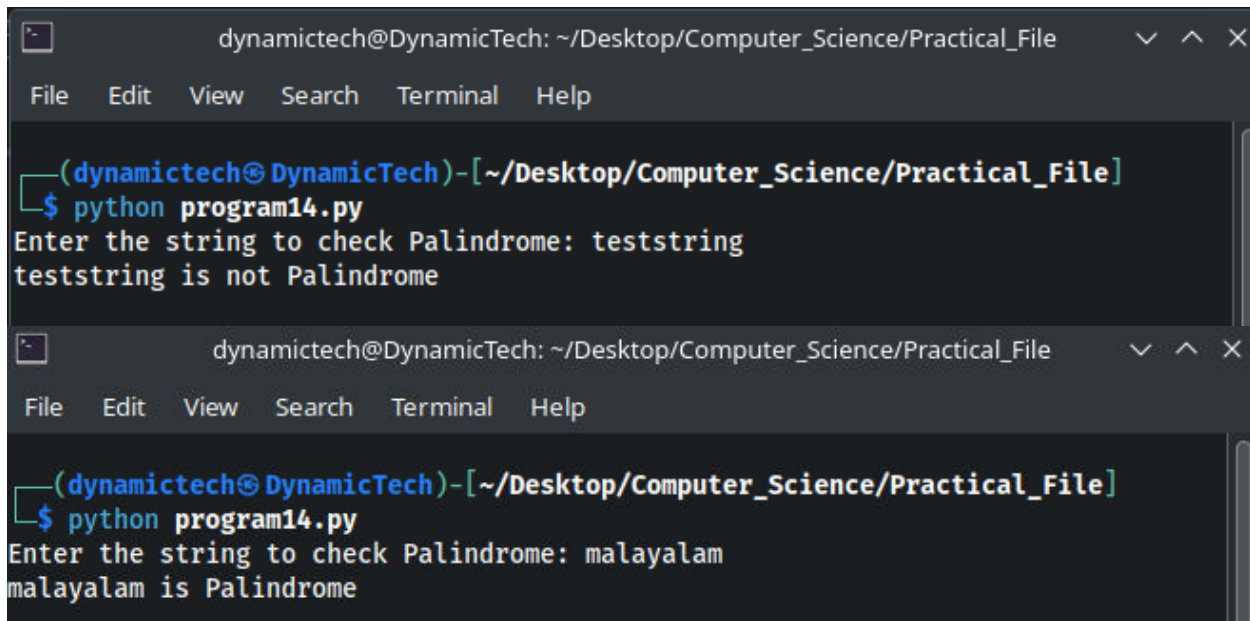
```
if rev_st == st:
```

```
    print(st, "is Palindrome")
```

```
else:
```

```
    print(st, "is not Palindrome")
```

Output:



```
dynamictech@dynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help

(dynamictech@dynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program14.py
Enter the string to check Palindrome: teststring
teststring is not Palindrome

(dynamictech@dynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program14.py
Enter the string to check Palindrome: malayalam
malayalam is Palindrome
```

Question.15 Write a program to convert the case of characters of entered string

```
# Program to take a string as input from user and convert the case of it's
charcaters

st = input("Enter the string: ")

print("The case converted string is", "\' ", end=" ")

for ch in st:

    if ch.isupper():

        ch = ch.lower()

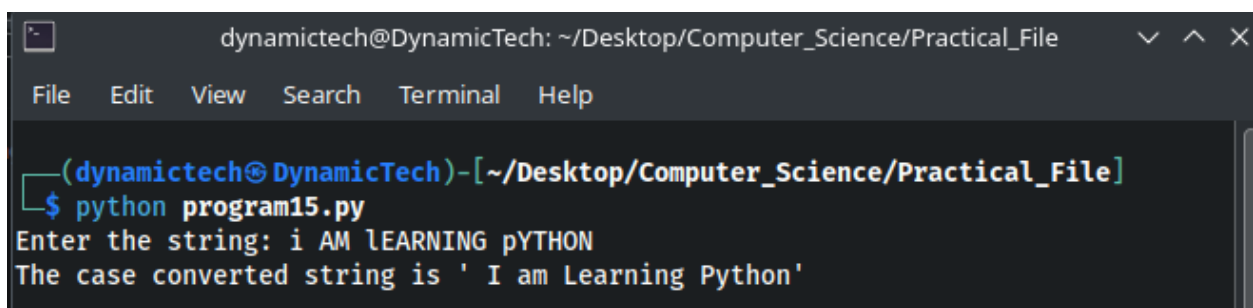
    else:

        ch = ch.upper()

    print(ch, end="")

print("\' ")
```

Output:



```
dynamictech@DynamicTech: ~/Desktop/Computer_Science/Practical_File
File Edit View Search Terminal Help
(dynamictech@DynamicTech)-[~/Desktop/Computer_Science/Practical_File]
$ python program15.py
Enter the string: i AM lEARNING pYTHON
The case converted string is ' I am Learning Python'
```