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ASSIGNMENT-1

PYTHON

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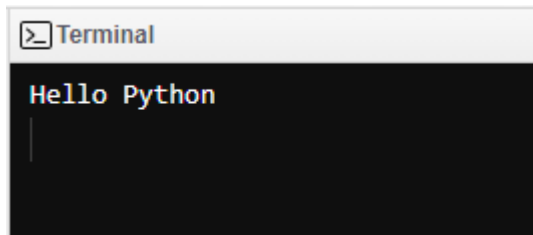
ENROLLMENT NO:- 210004004

ROLL NO. :- 3



1. Python program to print "Hello Python"

```
print("Hello Python")
```



2. Python program to do arithmetical operations

```
print("Arithmetic Operational")

a = int(input('Enter a numerical value'))

b = int(input('Enter another numerical value'))

w = a+b

x = a-b

y = a*b

z = a/b

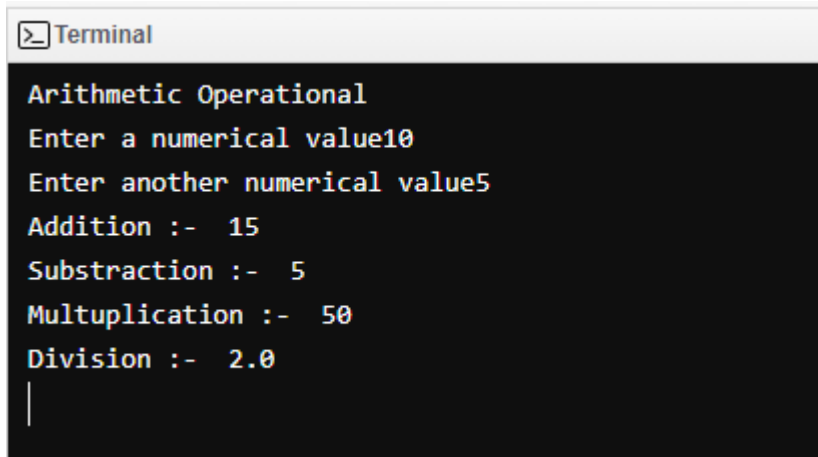
print ('\n')

print('Addition :- ',w)

print('Substraction :- ',x)

print('Multuplication :- ',y)

print('Division :- ',z)
```

A terminal window titled "Terminal" with a dark background and light-colored text. It shows the output of the Python program. The first line is "Arithmetic Operational". Then, it prompts "Enter a numerical value" and the user enters "10". Next, it prompts "Enter another numerical value" and the user enters "5". The program then displays four lines of results: "Addition :- 15", "Substraction :- 5", "Multuplication :- 50", and "Division :- 2.0". A vertical cursor is visible on the line following the division result.

```
Terminal
Arithmetic Operational
Enter a numerical value10
Enter another numerical value5
Addition :- 15
Substraction :- 5
Multuplication :- 50
Division :- 2.0
|
```

3. Python program to find the area of a triangle

```
print('Area of Triangle')

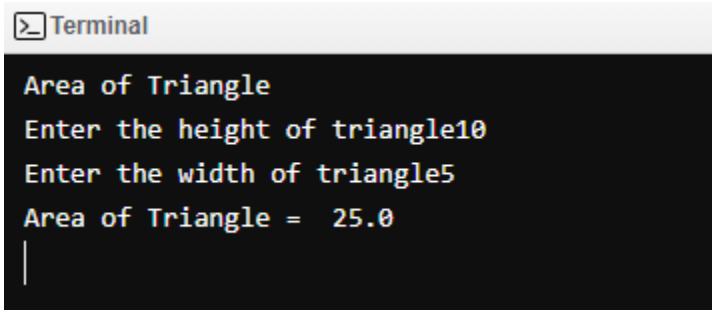
height = int(input('Enter the height of triangle'))

width = int(input('Enter the width of triangle'))

area = 0.5*height*width

print(' ')

print('Area of Triangle = ',area)
```

A terminal window titled "Terminal" with a dark background and light-colored text. It shows the output of the Python program: "Area of Triangle", followed by prompts "Enter the height of triangle" and "Enter the width of triangle" with inputs "10" and "5" respectively. The final output is "Area of Triangle = 25.0" followed by a vertical cursor line.

```
> Terminal


Area of Triangle
Enter the height of triangle10
Enter the width of triangle5
Area of Triangle = 25.0
|
```

4. Python program to solve quadratic equation

```
print('Quadratic Equation')
```

```
eq = 10**2 + (5*2) - 1
```

```
print('Quadratic Equation Solution = ',eq)
```

 Terminal

```
Quadratic Equation
```

```
Quadratic Equation Solution = 109
```

5. Python program to swap two variables

```
print("Swap two Variables \n")
```

```
a = 10
```

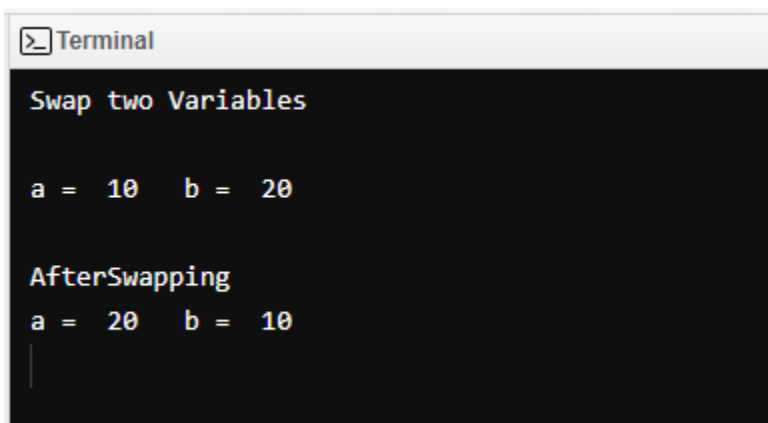
```
b = 20
```

```
print('a = ',a,' b = ',b,'\n')
```

```
print('AfterSwapping')
```

```
a,b = b,a
```

```
print('a = ',a,' b = ',b)
```

A terminal window titled "Terminal" with a dark background and light-colored text. The output of the Python program is displayed, showing the initial values of variables a and b, followed by the swap operation, and the final values of a and b after swapping.

```
Terminal
Swap two Variables

a = 10    b = 20

AfterSwapping
a = 20    b = 10
|
```

6. Python program to generate a random number

```
print("Random Number generator")

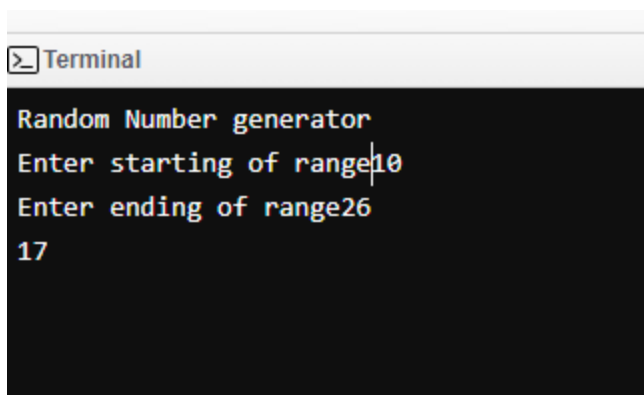
import random

a = int(input("Enter starting of range"))

b = int(input("Enter ending of range"))

x = random.randint(a,b)

print(x)
```

A terminal window titled "Terminal" with a dark background and light-colored text. The output of the Python program is displayed: "Random Number generator", followed by a prompt "Enter starting of range" with the input "10", then another prompt "Enter ending of range" with the input "26", and finally the output "17".

```
Terminal
Random Number generator
Enter starting of range10
Enter ending of range26
17
```

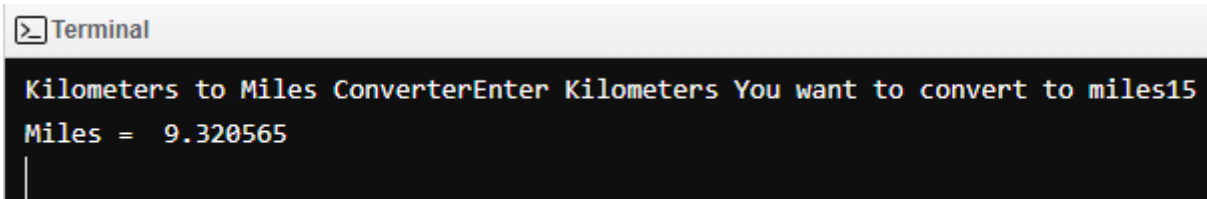
7. Python program to convert kilometers to miles

```
print("Kilometers to Miles Converter")
```

```
k = int(input('Enter Kilometers You want to convert to miles'))
```

```
x = k*0.621371
```

```
print("Miles = ",x)
```

A screenshot of a terminal window titled "Terminal". The terminal shows the output of the Python program. It starts with the text "Kilometers to Miles Converter", followed by the prompt "Enter Kilometers You want to convert to miles". The user has entered "15". The program then outputs "Miles = 9.320565".

```
Terminal
Kilometers to Miles ConverterEnter Kilometers You want to convert to miles15
Miles = 9.320565
|
```

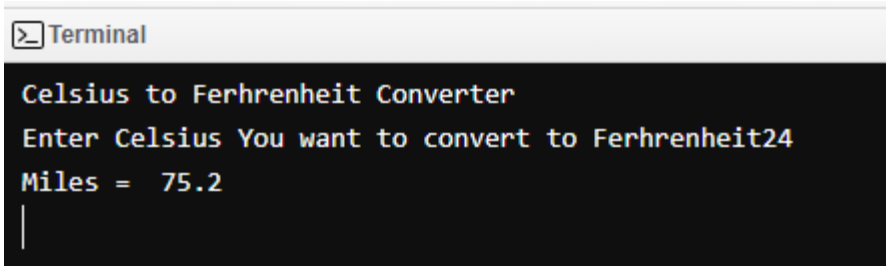

8. Python program to convert Celsius to Fahrenheit

```
print("Celsius to Ferhrenheit Converter")

c = int(input("Enter Celsius You want to convert to Ferhrenheit"))

f = c*(9/5)+32

print("Miles = ",f)
```

A terminal window with a title bar that says "Terminal". The window has a black background with white text. The text inside the terminal shows the output of the Python program: "Celsius to Ferhrenheit Converter", "Enter Celsius You want to convert to Ferhrenheit24", and "Miles = 75.2". There is a vertical cursor line at the end of the last line.

```
Terminal
Celsius to Ferhrenheit Converter
Enter Celsius You want to convert to Ferhrenheit24
Miles = 75.2
|
```

9. Python Program to Check if a Number is Positive, Negative or Zero

```
print("Check if a Number is Positive, Negative or Zero")
```

```
n = int(input("Enter a number to check"))
```

```
if n>0 :
```

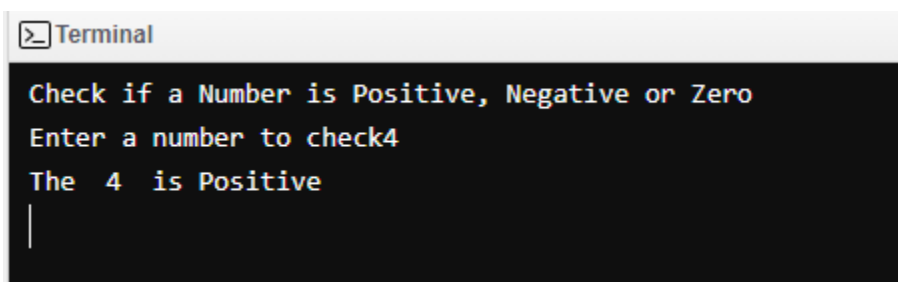
```
    print("The ",n," is Positive")
```

```
elif n<0 :
```

```
    print("The ",n," is Negetive")
```

```
else :
```

```
    print("The Number is Zero")
```

A screenshot of a terminal window with a title bar that says "Terminal". The terminal has a black background with white text. It shows the output of the Python program: "Check if a Number is Positive, Negative or Zero", followed by the prompt "Enter a number to check" and the user input "4". The program then outputs "The 4 is Positive".

```
Terminal  
Check if a Number is Positive, Negative or Zero  
Enter a number to check4  
The 4 is Positive  
|
```

10. Python Program to Check if a Number is Odd or Even

```
print("Check if a Number is Odd or Even")
```

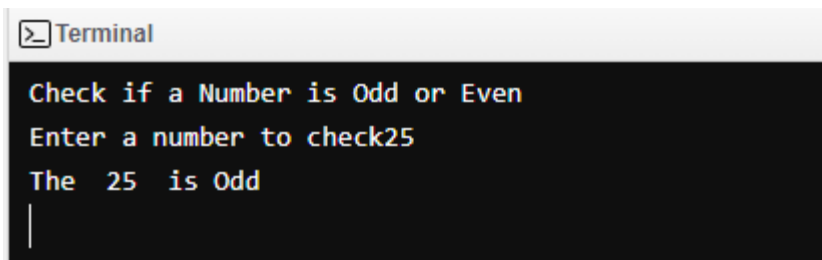
```
n = int(input("Enter a number to check"))
```

```
if n%2==0 :
```

```
    print("The ",n," is Even")
```

```
else :
```

```
    print("The ",n," is Odd")
```

A screenshot of a terminal window with a title bar that says "Terminal". The terminal has a black background with white text. It shows the output of the Python program: "Check if a Number is Odd or Even", followed by a prompt "Enter a number to check" where the user has entered "25". The program then outputs "The 25 is Odd". A vertical cursor is visible on the line following the output.

```
> Terminal  
Check if a Number is Odd or Even  
Enter a number to check25  
The 25 is Odd  
|
```

11. Python Program to Check Leap Year

```
print("Check Leap Year")

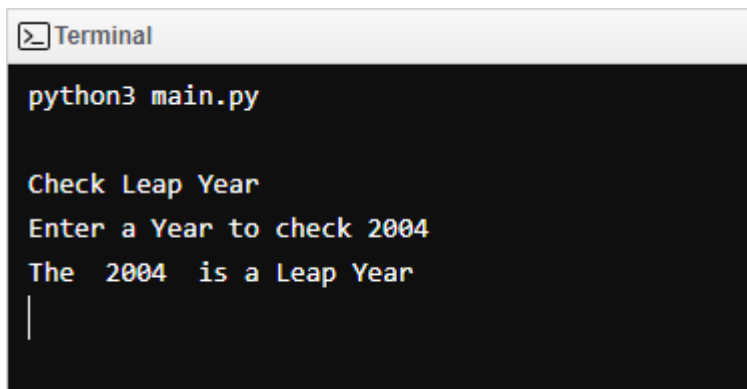
n = int(input("Enter a Year to check"))

if n%4==0 or n%400==0 :

    print("The ",n," is a Leap Year")

else :

    print("The ",n," is not a leap Year")
```

A screenshot of a terminal window with a title bar that says "Terminal". The terminal has a black background with white text. The first line shows the command "python3 main.py" being executed. The second line shows the program's output: "Check Leap Year". The third line shows the user input: "Enter a Year to check 2004". The fourth line shows the program's output: "The 2004 is a Leap Year". A vertical cursor is visible on the line following the output.

```
python3 main.py

Check Leap Year
Enter a Year to check 2004
The 2004 is a Leap Year
|
```

12. Python Program to Check Prime Number

```
print("Check Prime Number")

from math import sqrt

n = int(input("Enter a Number to check"))

if n>3 :

    for i in range(2,n):

        if n%i == 0 :

            p = 0

            break

        else :

            p = 1

elif n==1 :

    p = 0

elif n==2 :

    p = 1

else :


    p = 1

if p==1 :

    print("The ",n," is a Prime number")

else :

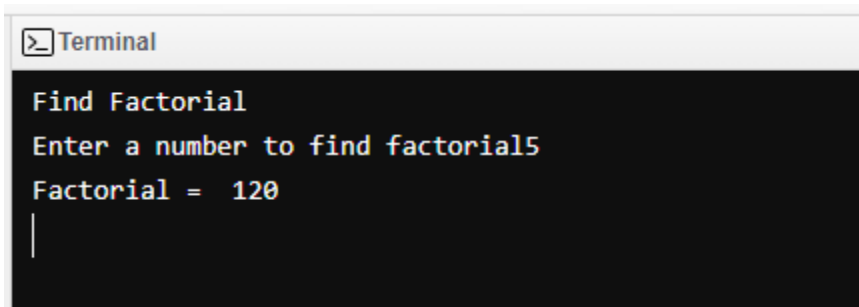
    print("The ",n," is Not a Prime number")
```

 Terminal

```
Check Prime Number
Enter a Number to check29
The  29  is a Prime number
|
```

13. Python Program to Find the Factorial of a Number

```
print("Find Factorial")  
  
a = int(input('Enter a number to find factorial'))  
  
f = 1  
  
for i in range(a,1,-1):  
    f = f * i  
  
print("Factorial = ",f)
```

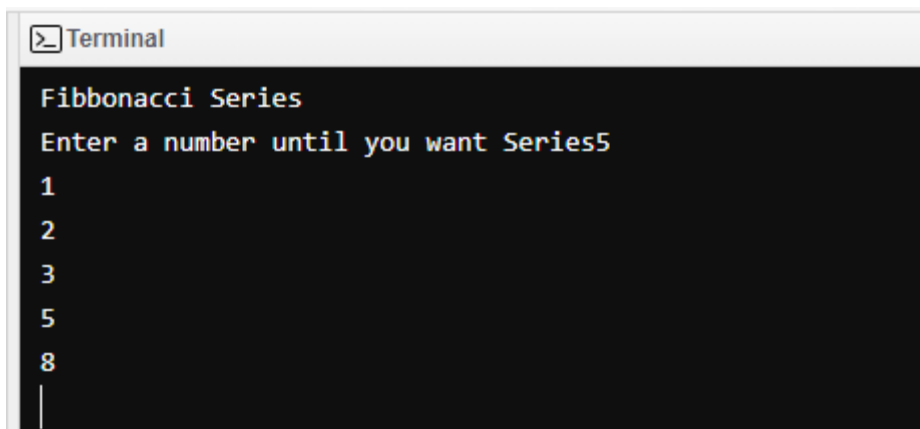


A terminal window titled "Terminal" with a dark background. It shows the output of the Python program: "Find Factorial", followed by the prompt "Enter a number to find factorial" where the user has entered "5". The program then outputs "Factorial = 120" and a vertical cursor is visible on the next line.

```
Terminal  
Find Factorial  
Enter a number to find factorial5  
Factorial = 120  
|
```

14. Python Program to Print the Fibonacci sequence

```
print('Fibonacci Series')  
  
n = int(input('Enter a number until you want Series'))  
  
a = 1  
  
b = 2  
  
print(a)  
  
print(b)  
  
print(3)  
  
c = a + b  
  
for i in range (3,n):  
  
    c = b + c  
  
    b = c - b  
  
    print(c)
```



A terminal window titled "Terminal" with a dark background. It shows the output of the Python program. The first line is "Fibonacci Series". The second line is the prompt "Enter a number until you want Series" followed by the user input "5". The subsequent lines show the Fibonacci sequence: "1", "2", "3", "5", and "8". A vertical cursor is visible at the end of the last line.

```
Terminal  
Fibonacci Series  
Enter a number until you want Series5  
1  
2  
3  
5  
8  
|
```

15. Python Program to Check Armstrong Number

```
print("Check Armstrong Number")

a = int(input("Enter a number to check"))

list1 = []

z = a

while z >= 1 :

    x = int(z%10)

    list1.append(x)

    z = int(z/10)

sum = 0

for i in range(len(list1)):

    s = list1[i]**len(list1)

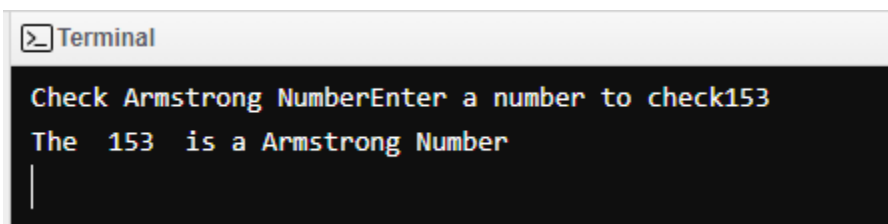
    sum = sum + s

if sum == a :

    print('The ',a,' is a Armstrong Number')

else :

    print('The ',a,' is not a Armstrong Number')
```

A screenshot of a terminal window with a title bar that says "Terminal". The terminal has a black background with white text. The output of the program is displayed as follows: "Check Armstrong NumberEnter a number to check153" on the first line, "The 153 is a Armstrong Number" on the second line, and a vertical cursor bar on the third line.

```
Terminal
Check Armstrong NumberEnter a number to check153
The 153 is a Armstrong Number
|
```


16. Python Program to Find Armstrong Number in an Interval

```
print("Check Armstrong Number")

m = int(input("Enter the starting number of interval"))
n = int(input("Enter the starting number of interval"))

list2 = []

for i in range(m,n) :

    a = i

    list1 = []

    z = a

    while z>=1 :

        x = int(z%10)

        list1.append(x)

        z = int(z/10)

    sum = 0

    for i in range(len(list1)):

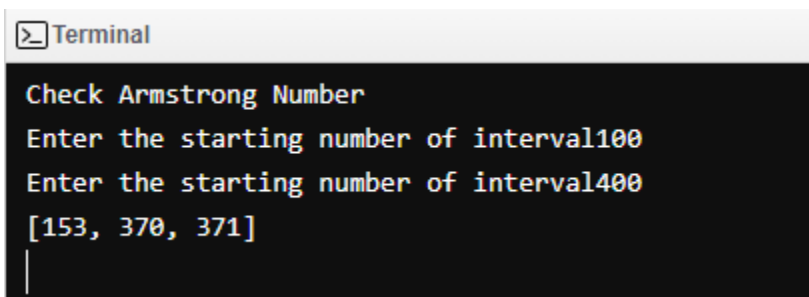
        s = list1[i]**len(list1)

        sum = sum + s

    if sum == a :

        list2.append(a)

print(list2)
```



A terminal window titled "Terminal" with a dark background. It shows the output of the Python program. The first line is "Check Armstrong Number". Then, it prompts "Enter the starting number of interval" and receives "100". It prompts again "Enter the starting number of interval" and receives "400". The final output is "[153, 370, 371]" followed by a cursor line.

```
Terminal
Check Armstrong Number
Enter the starting number of interval100
Enter the starting number of interval400
[153, 370, 371]
|
```

17. Python Program to Find the Sum of Natural Numbers

```
print('Sum of Natural Numbers')
```

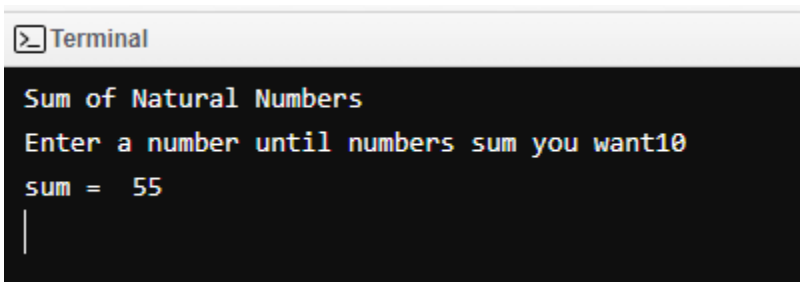
```
a = int(input('Enter a number until numbers sum you want'))
```

```
sum = a
```

```
for i in range(1,a) :
```

```
    sum = sum + i
```

```
print('sum = ',sum)
```

A terminal window titled "Terminal" with a dark background. It displays the output of the Python program. The first line is "Sum of Natural Numbers". The second line is the prompt "Enter a number until numbers sum you want" followed by the user input "10". The third line shows the result "sum = 55". A vertical cursor is visible on the line following the output.

```
Terminal
Sum of Natural Numbers
Enter a number until numbers sum you want10
sum = 55
|
```