

# Python\_basic\_programming\_16

In [ ]:

```
1. Write a function that stutters a word as if someone is struggling to read it.
The first two letters are repeated twice with an ellipsis ... and space after each,
and then the word is pronounced with a question mark?
Examples: stutter("incredible") "in... in... incredible?"
stutter ("enthusiastic") "en... en... enthusiastic?"
stutter ("outstanding") "ou... ou... outstanding?"
Hint :-Assume all input is in lower case and at least two characters long.
```

In [1]:

```
def stutterWord():
    in_string = input('Enter the Word :')
    out_string = in_string.replace(in_string[0:2],((in_string[0:2]+'... ')*2)+
                                   in_string[0:2])+'?'

    print(f'{in_string}{out_string}')
for i in range(3):
    stutterWord()
```

```
Enter the Word :Excellent
ExcellentEx... Ex... Excellent?
Enter the Word :Outstanding
OutstandingOu... Ou... Outstanding?
Enter the Word :Febulas
FebulasFe... Fe... Febulas?
```

In [ ]:

```
2. Create a function that takes an angle in radians and returns the corresponding
angle in degrees
rounded to one decimal place?
Examples: radians_to_degrees(1) 57.3
radians_to_degrees(20) 1145.9
radians_to_degrees(50) 2864.8
```

In [2]:

```
import math
def radianToDegree():
    in_num = int(input('Enter the angle in Radians: '))
    out_num = (180/math.pi)*in_num
    print(f'{in_num}radian(s) {out_num:.1f} degrees')

for x in range(3):
    radianToDegree()
```

```
Enter the angle in Radians: 1
1radian(s) 57.3 degrees
Enter the angle in Radians: 50
50radian(s) 2864.8 degrees
Enter the angle in Radians: 100
100radian(s) 5729.6 degrees
```

In [ ]:

```
3. In this challenge, establish if a given integer num is a Curzon number.
If 1 plus 2 elevated to num is exactly divisible by 1 plus 2 multiplied by
num, then num is a Curzon number. Given a non-negative integer num,
implement a function that returns True if num is a Curzon number, or False
otherwise.
Examples: is_curzon(5) True # 2 ** 5 + 1 = 33 # 2 * 5 + 1 = 11 # 33 is a
multiple of 11 is_curzon(10) False # 2 ** 10 + 1 = 1025 # 2 * 10 + 1 = 21
1025 is not a multiple of 21 is_curzon(14) True
# 2 ** 14 + 1 = 16385 # 2 *14 + 1 = 29 # 16385 is a multiple of 29
```

In [3]:

```
def checkCurzon():
    in_num = int(input("Enter a number: "))
    if (pow(2,in_num)+1)%((2*in_num)+1) == 0:
        print(f'{in_num} is a Curzon Number')
    else:
        print(f'{in_num} is Not a Curzon Number')
for x in range(4):
    checkCurzon()
```

```
Enter a number: 5
5 is a Curzon Number
Enter a number: 10
10 is Not a Curzon Number
Enter a number: 15
15 is Not a Curzon Number
Enter a number: 22
22 is Not a Curzon Number
```

In [ ]:

```
4. Given the side length x find the area of a hexagon?
Examples: area_of_hexagon(1) 2.6
area_of_hexagon(2) 10.4
area_of_hexagon(3) 23.
```

In [4]:

```
import math
def areaOfHexagon():
    in_num = int(input('Enter the side length of a Hexagon: '))
    out_num = ((3*math.sqrt(3))/2)*(pow(in_num,2))
    print(f'Area for Hexagon of sidelength {in_num} {out_num:.1f}')
for x in range(3):
    areaOfHexagon()
```

```
Enter the side length of a Hexagon: 4
Area for Hexagon of sidelength 4 41.6
Enter the side length of a Hexagon: 10
Area for Hexagon of sidelength 10 259.8
Enter the side length of a Hexagon: 12
Area for Hexagon of sidelength 12 374.1
```

In [ ]:

```
5. Create a function that returns a base-2 (binary) representation of a base-10
(decimal) string number. To convert is simple:
((2) means base-2 and (10) means base-10)
010101001(2) = 1 + 8 + 32 + 128.
Going from right to left, the value of the most right bit is 1, now from that
every bit to the left will be x2 the value, value of an 8 bit binary numbers
are (256, 128, 64, 32, 16, 8, 4, 2, 1).
Examples:
binary(1) "1" # 1* 1 = 1 binary(5) "101" # 1 1 + 1 4 = 5 binary(10) "1010"
# 1 2 + 1 8 = 10
```

In [5]:

```
def getBinary():
    in_num = int(input("Enter a Number: "))
    out_num = bin(in_num).replace('0b','')
    print(f'Binary of {in_num} {out_num}')
for x in range(3):
    getBinary()
```

```
Enter a Number: 1
Binary of 1 1
Enter a Number: 5
Binary of 5 101
Enter a Number: 13
Binary of 13 1101
```