

Python Basic Programming Assignment - 15

1. Please write a program using generator to print the numbers which can be divisible by 5 and 7 between 0 and n in comma separated form while n is input by console.

```
In [3]: n=int(input("Enter the value of n: "))
res=[i for i in range(n) if i%5==0 and i%7==0]
print(res)
```

[0, 35, 70, 105, 140, 175, 210, 245]

2. Please write a program using generator to print the even numbers between 0 and n in comma separated form while n is input by console.

```
In [4]: n=int(input("Enter the value of n: "))
res=[i for i in range(n) if i%2==0]
print(res)
```

[0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598]

3. Please write a program using list comprehension to print the Fibonacci Sequence in comma separated form with a given n input by console.

```
In [13]: n=int(input("Enter the value of n: "))
fib=[]
fib.append(0)
fib.append(1)
[fib.append(fib[i-2]+fib[i-1]) for i in range(2,n)]
print(fib)
```

[0, 1, 1, 2, 3, 5, 8, 13, 21, 34]

4. Assuming that we have some email addresses in the "username@companyname.com" format, please write program to print the user name of a given email address. Both user names and company names are composed of letters only.

```
In [28]: import re
emailAddress = "asgyy@gmail.com"
pat2 = "(\w+)@((\w+\.)+(com))"
r2 = re.match(pat2,emailAddress)
print(r2.group(1))
```

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5. Define a class named Shape and its subclass Square. The Square class has an init function which takes a length as argument. Both classes have a area function which can print the area of the shape where Shape's area is 0 by default.

```
In [29]: class Shape(object):
        def __init__(self):
            pass
        def area(self):
            return 0
class Square(Shape):
    def __init__(self, l):
        Shape.__init__(self)
        self.length = l
    def area(self):
        return self.length*self.length
aSquare= Square(3)
print(aSquare.area())
```

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