A2

October 7, 2020

Q1

[1]:
```
list_1 = [1,2,3,4]
list_1.reverse()
list_1
```

[1]:
```
[4, 3, 2, 1]
```

Q2

[17]:
```
for x in range(8):
    y=0
    while y<x and y<8-x:
        y+=1
        print('*',end="")
    print('')
```

```
*
**
***
****
***
**
*
```

Q3

[23]:
```
n_start=100
while n_start<1000:
    if n_start%5==0 or n_start%7==0:
        print(n_start, end=", ")
    n_start+=1
```

```
100, 105, 110, 112, 115, 119, 120, 125, 126, 130, 133, 135, 140, 145, 147, 150,
154, 155, 160, 161, 165, 168, 170, 175, 180, 182, 185, 189, 190, 195, 196, 200,
203, 205, 210, 215, 217, 220, 224, 225, 230, 231, 235, 238, 240, 245, 250, 252,
255, 259, 260, 265, 266, 270, 273, 275, 280, 285, 287, 290, 294, 295, 300, 301,
305, 308, 310, 315, 320, 322, 325, 329, 330, 335, 336, 340, 343, 345, 350, 355,
357, 360, 364, 365, 370, 371, 375, 378, 380, 385, 390, 392, 395, 399, 400, 405,
```

```
406, 410, 413, 415, 420, 425, 427, 430, 434, 435, 440, 441, 445, 448, 450, 455,
460, 462, 465, 469, 470, 475, 476, 480, 483, 485, 490, 495, 497, 500, 504, 505,
510, 511, 515, 518, 520, 525, 530, 532, 535, 539, 540, 545, 546, 550, 553, 555,
560, 565, 567, 570, 574, 575, 580, 581, 585, 588, 590, 595, 600, 602, 605, 609,
610, 615, 616, 620, 623, 625, 630, 635, 637, 640, 644, 645, 650, 651, 655, 658,
660, 665, 670, 672, 675, 679, 680, 685, 686, 690, 693, 695, 700, 705, 707, 710,
714, 715, 720, 721, 725, 728, 730, 735, 740, 742, 745, 749, 750, 755, 756, 760,
763, 765, 770, 775, 777, 780, 784, 785, 790, 791, 795, 798, 800, 805, 810, 812,
815, 819, 820, 825, 826, 830, 833, 835, 840, 845, 847, 850, 854, 855, 860, 861,
865, 868, 870, 875, 880, 882, 885, 889, 890, 895, 896, 900, 903, 905, 910, 915,
917, 920, 924, 925, 930, 931, 935, 938, 940, 945, 950, 952, 955, 959, 960, 965,
966, 970, 973, 975, 980, 985, 987, 990, 994, 995,
```

Q4

[33]:
```python
global s_pre, s_cur, s_new
s_pre = 1
s_cur = 1
s_new = s_pre + s_cur
fibonacci = [s_pre, s_cur]
while s_new<100:
    fibonacci.append(s_new)
    s_pre = s_cur
    s_cur = s_new
    s_new = s_pre + s_cur
print(fibonacci)
```

```
[1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89]
```

Q5

[18]:
```python
def prime(number):
    for x in range(number):
        if x!=0 and x!=1:
            if number%(x)==0:
                return False
    return True
list_5=[0,3,2,12,21,23]
for num in list_5:
    if num!=list_5[0]:
        print(", ",end="")
    if num<=0 or type(num)==float:
        print("invalid",end="")
    elif num==1:
        print("NOT prime, NOT compound",end="")
    else:
        b = prime(num)
        if b==True:
            print("prime", end="")
```

```
        else:
            print("NOT prime", end="")
```

```
invalid, prime, prime, NOT prime, NOT prime, prime
```

Q6

[27]:
```
string_6 = "adfcre ewvkfna scv."
list_6=[]
p = -1
s = ''
while s!='.':
    p += 1
    s = string_6[p]
    word=''
    while s!=' ' and s!='.':
        word += s
        p += 1
        s = string_6[p]
    list_6.append(word)
print(list_6)
```

```
['adfcre', 'ewvkfna', 'scv']
```

Q7

[30]:
```
array_7=[[1,3],[0,5]]
list_7=[]
for n in range(len(array_7)):
    for m in range(len(array_7[n])):
        if array_7[n][m]%3==0:
            list_7.append([n,m])
list_7
```

[30]:
```
[[0, 1], [1, 0]]
```

Q8

[1]:
```
stock = {"banana":6, "apple":7, "orange":32, "pear":15}
prices = {"banana":4, "apple":2, "orange":1.5, "pear":3}
for x in stock:
    money = stock[x] * prices[x]
    print("Income ", x, "is ", money)
```

```
Income  banana is  24
Income  apple is  14
Income  orange is  48.0
Income  pear is  45
```