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1865

Question 1: Python Basics?

A-Define a list that contain the names of graduated students" 5 students at least":
Create a program that accept student name and prints if the user is graduated or not.

```
listOfStudents = ['kareem','sara','mohanad','ahmad','ali']
studentName = input('enter your name: ')
if studentName in listOfStudents:
    print("you are passed, congrats")
else:
    print("field")
```

```
enter your name: kareem
you are passed, congrats

Process finished with exit code 0
```

```
enter your name: sami
field

Process finished with exit code 0
```

B- Generate and print a list of odd numbers from 1 to 1000.
Tips: "List Comprehension"

```
numbers = [x for x in range(0,1001) if x % 2 != 0]
print(numbers)
```

[1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511, 513, 515, 517, 519, 521, 523, 525, 527, 529, 531, 533, 535, 537, 539, 541, 543, 545, 547, 549, 551, 553, 555, 557, 559, 561, 563, 565, 567, 569, 571, 573, 575, 577, 579, 581, 583, 585, 587, 589, 591, 593, 595, 597, 599, 601, 603, 605, 607, 609, 611, 613, 615, 617, 619, 621, 623, 625,

627, 629, 631, 633, 635, 637, 639, 641, 643, 645, 647, 649, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669, 671, 673, 675, 677, 679, 681, 683, 685, 687, 689, 691, 693, 695, 697, 699, 701, 703, 705, 707, 709, 711, 713, 715, 717, 719, 721, 723, 725, 727, 729, 731, 733, 735, 737, 739, 741, 743, 745, 747, 749, 751, 753, 755, 757, 759, 761, 763, 765, 767, 769, 771, 773, 775, 777, 779, 781, 783, 785, 787, 789, 791, 793, 795, 797, 799, 801, 803, 805, 807, 809, 811, 813, 815, 817, 819, 821, 823, 825, 827, 829, 831, 833, 835, 837, 839, 841, 843, 845, 847, 849, 851, 853, 855, 857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885, 887, 889, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999]

C- L=['Network' , 'Math' , 'Programming', 'Physics' , 'Music']

In this exercise, you will implement a Python program that reads the items of the previous list and identifies the items that starts with 'P' letter, then print it on screen.

Tips: using loop, list 'len ()' method

```
L = ['Network' , 'Math' , 'Programming', 'Physics' , 'Music']
for l in L:
    if l[0] == 'P':
        print(l)
```

```
Programming
Physics

Process finished with exit code 0
```

D: Using Dictionary comprehension, Generate this dictionary d={1:1,2:4,3:9,4:16,5:25,6:36,7:42,8:64,9:81,10:100}

```
d = {num: num*num for num in range(1, 11)}
print(d)
```

```
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}

Process finished with exit code 0
```

Question 2: Convert from decimal to binary

Write a Python program that converts a decimal number into its equivalent binary number.
The program should start reading the decimal number from the user. Then the binary equivalent number must be calculated. Finally, the program must display the equivalent binary number on the screen.
Tips: use empty list to hold binary number, use loop, use % operator, use // operator, use list append method, reverse the list.

```
decimal = int(input('Enter decimal number: '))
numberAtBinary = []
while decimal > 0:
    b = decimal % 2
    decimal = int(decimal / 2)

    numberAtBinary.append(b)

numberAtBinary.reverse()
print(numberAtBinary)
```

```
Enter decimal number: 124
[1, 1, 1, 1, 1, 0, 0]

Process finished with exit code 0
```

Question 3: Working with Files" Quiz Program"

Type python quiz program that takes a text or json or csv file as input for (20 (Questions, Answers)). It asks the questions and finally computes and prints user results and store user name and result in separate file.

```
import json

# Opening JSON file
result = 0
name = input("Enter yout name: ")
with open('questions.json') as json_file:
    data = json.load(json_file)
    for question in data:
        print(question+": ")
        answer = input()
        if answer == data[question]:
            result = result + 1

resultFile = open("result.txt", "w")
resultFile.write(name+": ")
resultFile.write("result is: " + str(result)+"/20")
resultFile.close()
```

questions.json

```
{
  "write 'A'": "A",
  "write 'B'": "B",
  "write 'C'": "C",
  "write 'D'": "D",
  "write 'E'": "E",
  "write 'F'": "F",
  "write 'G'": "G",
  "write 'H'": "H",
  "write 'I'": "I",
  "write 'J'": "J",
  "write 'K'": "K",
  "write 'L'": "L",
  "write 'M'": "M",
  "write 'N'": "N",
  "write 'O'": "O",
  "write 'P'": "P",
  "write 'Q'": "Q",
  "write 'R'": "R",
  "write 'S'": "S",
  "write 'T'": "T"
}
```

result.txt

```
Kareem: result is: 18/20
```

Run

```
Enter yout name: kareem
write 'A':
A
write 'B':
B
write 'C':
C
write 'D':
D
write 'E':
E
```

```
write 'F':
F
write 'G':
G
write 'H':
H
write 'I':
I
write 'J':
J
write 'K':
K
write 'L':
L
write 'M':
M
write 'N':
N
write 'O':
O
write 'P':
P
write 'Q':
Q
write 'R':
R
write 'S':
U
write 'T':
X

Process finished with exit code 0
```