

First Network Programming Homework

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.



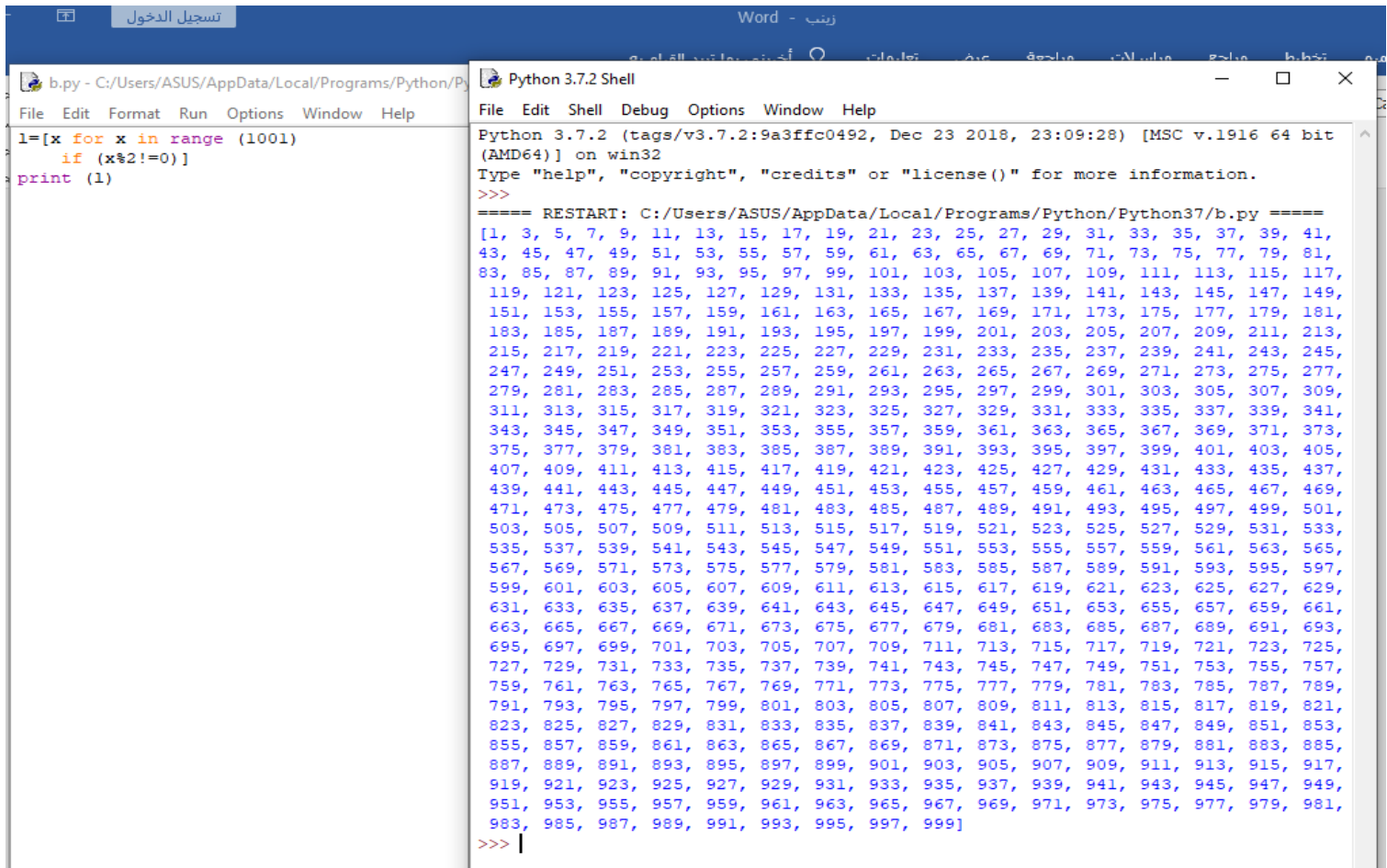
The screenshot shows a Python 3.7.2 IDE with two windows. The left window, titled 'a.py - C:/Users/ASUS/AppData/Local/Programs/Python/Python37/a.py (3.7.2)', contains the following code:

```
Grad=["mahmoud","maher","ali","zein","batool"]
name=input("enter a name:")
if name in Grad :
    print (name,"is graduated")
else :
    print (name,"is not graduated")
```

The right window, titled 'Python 3.7.2 Shell', shows the execution of the program. It displays the Python version and architecture, followed by a prompt to enter a name. The user enters 'ali', and the program outputs 'ali is graduated'. Then, the user enters 'sami', and the program outputs a 'NameError: name 'sami' is not defined' message.

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/ASUS/AppData/Local/Programs/Python/Python37/a.py =====
enter a name:ali
ali is graduated
>>>
>>> sami
Traceback (most recent call last):
  File "<pyshell#1>", line 1, in <module>
    sami
NameError: name 'sami' is not defined
>>> |
```

B- Generate and print a list of odd numbers from 1 to 1000.



The screenshot shows a Windows environment with a Python 3.7.2 Shell window. The shell window has a menu bar with File, Edit, Shell, Debug, Options, Window, and Help. The main text area displays the output of a Python script. The script, located at C:/Users/ASUS/AppData/Local/Programs/Python/Python37/b.py, generates a list of odd numbers from 1 to 1000. The output is a single line containing all odd numbers from 1 to 999, separated by commas. The shell window also shows the command prompt prompt >>> at the bottom.

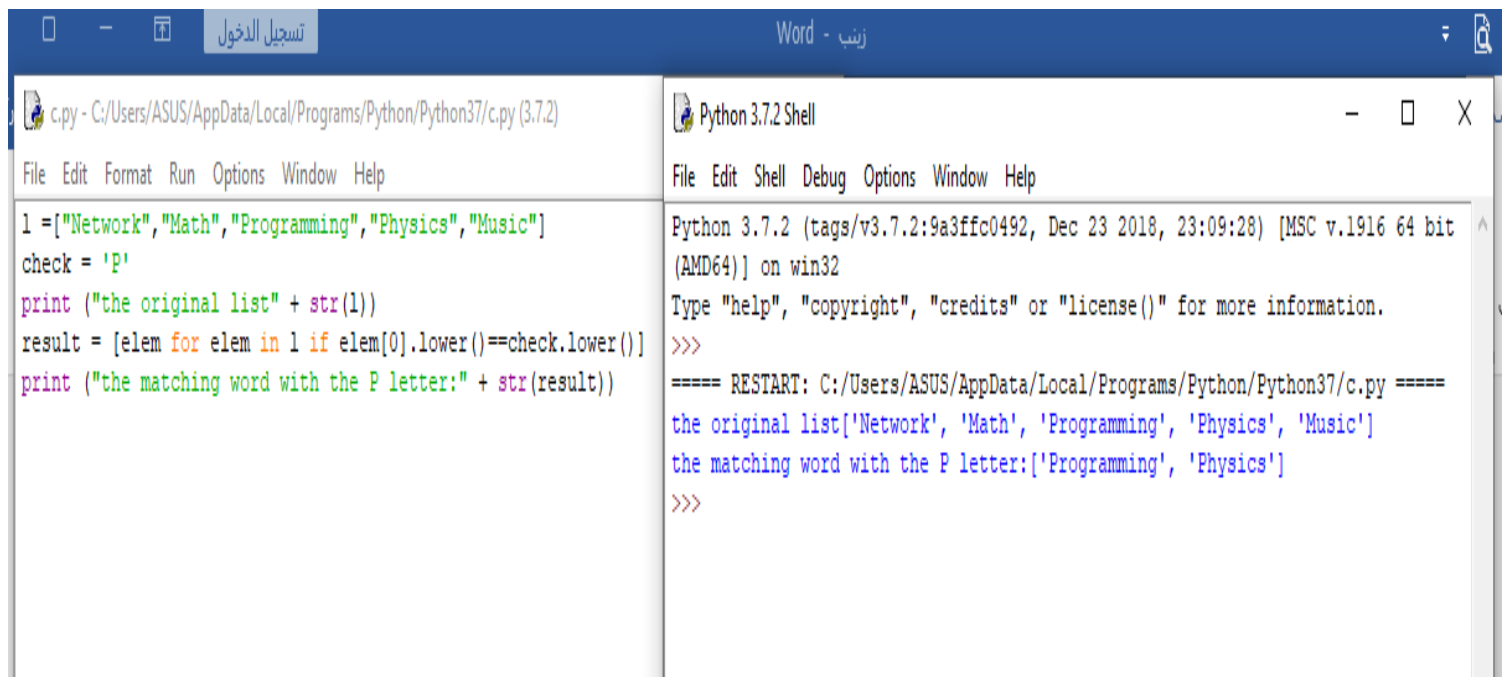
```
b.py - C:/Users/ASUS/AppData/Local/Programs/Python/Python37/b.py
File Edit Format Run Options Window Help

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

Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/ASUS/AppData/Local/Programs/Python/Python37/b.py =====
[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.



```
c.py - C:/Users/ASUS/AppData/Local/Programs/Python/Python37/c.py (3.7.2)
File Edit Format Run Options Window Help

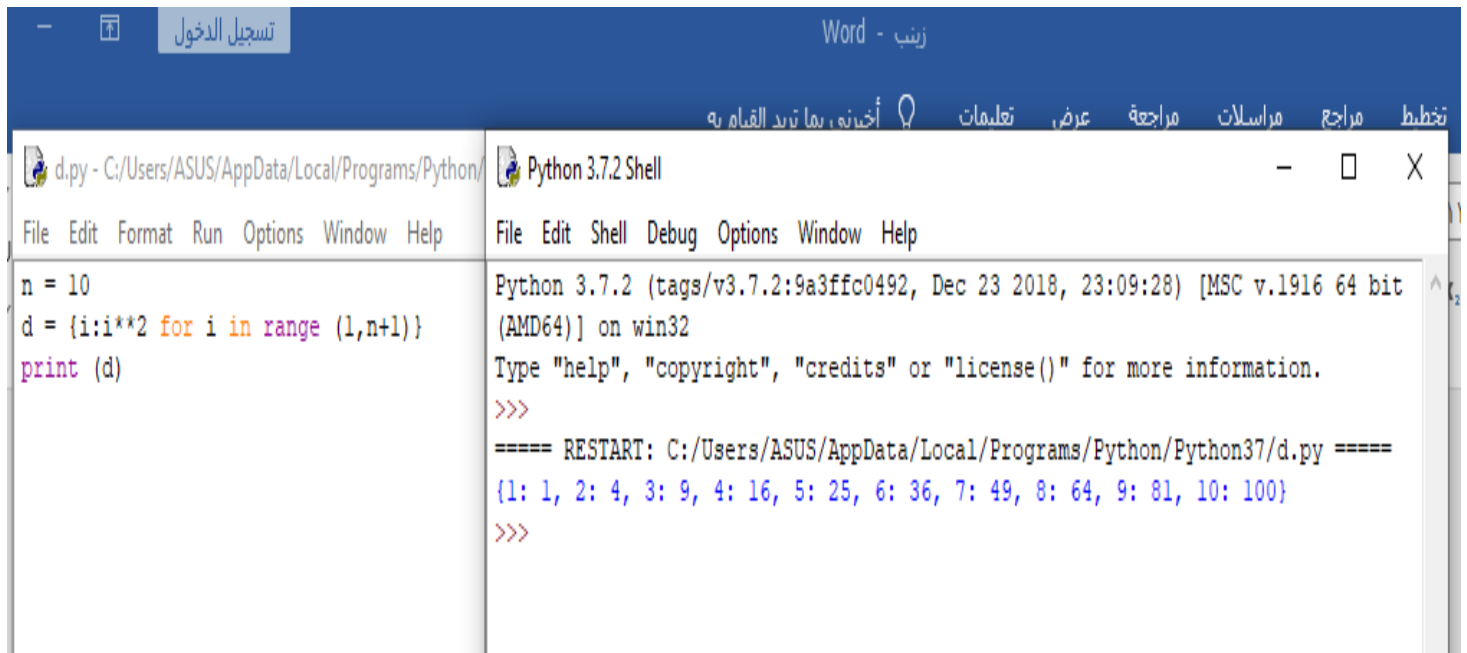
l=["Network","Math","Programming","Physics","Music"]
check = 'P'
print ("the original list" + str(l))
result = [elem for elem in l if elem[0].lower()==check.lower()]
print ("the matching word with the P letter:" + str(result))

Python 3.7.2 Shell
File Edit Shell Debug Options Window Help

Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/ASUS/AppData/Local/Programs/Python/Python37/c.py =====
the original list['Network', 'Math', 'Programming', 'Physics', 'Music']
the matching word with the P letter:['Programming', 'Physics']
>>>
```

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}

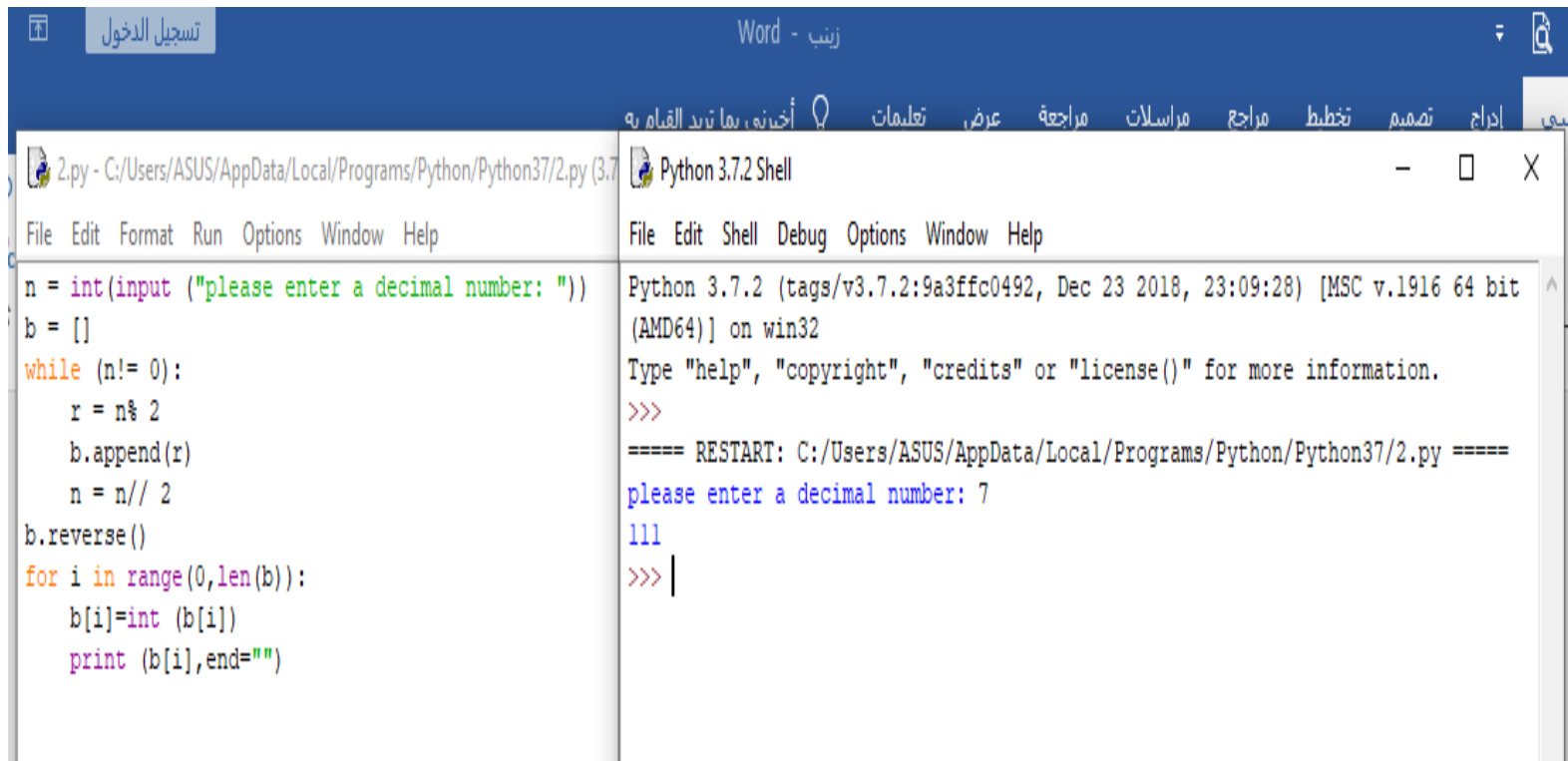


The screenshot shows a Windows environment with a Word application in the background and a Python 3.7.2 Shell window in the foreground. The Shell window has a menu bar with 'File', 'Edit', 'Shell', 'Debug', 'Options', 'Window', and 'Help'. The main text area displays the output of a Python script. The script defines `n = 10`, creates a dictionary `d` using a comprehension `d = {i:i**2 for i in range(1,n+1)}`, and prints it. The output shows the dictionary `{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}`. The window title is 'Python 3.7.2 Shell'.

```
d.py - C:/Users/ASUS/AppData/Local/Programs/Python/Python37/Python37/Python.exe
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/ASUS/AppData/Local/Programs/Python/Python37/d.py =====
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}
>>>
```

Question 2: Convert from decimal to binary

Write a Python program that converts a decimal number into its equivalent binary number.



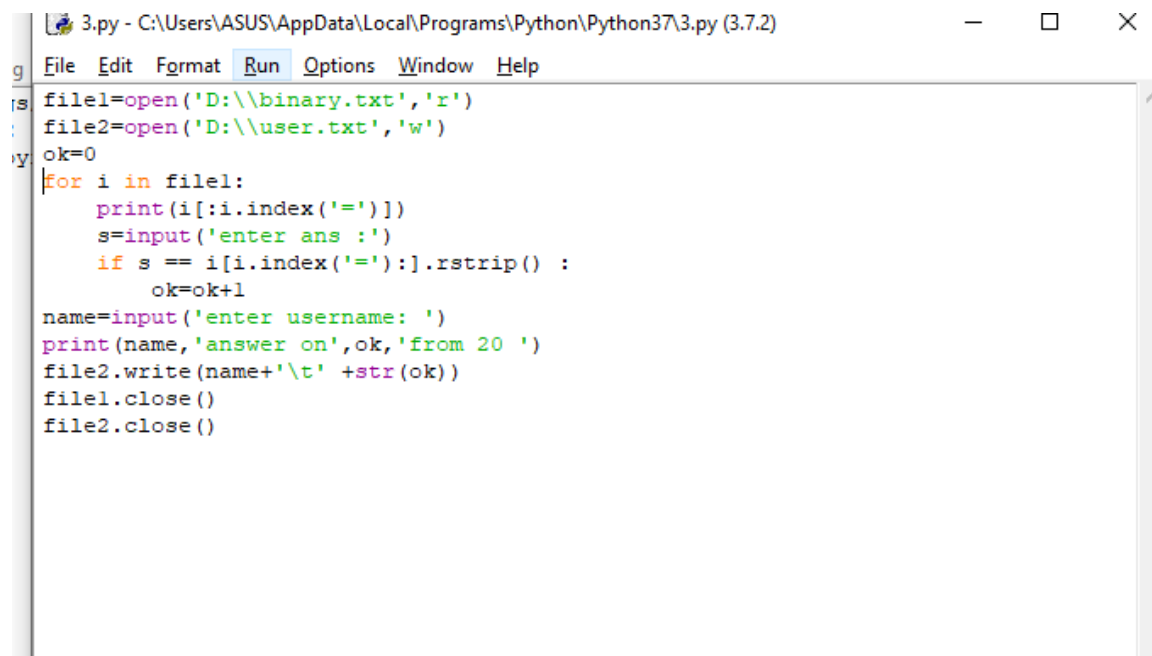
The screenshot shows a Windows environment with a Word document titled 'Word - زينب' in the background. In the foreground, a Python 3.7.2 Shell window is open, displaying the execution of a Python script. The script prompts the user to enter a decimal number, which is then converted to its binary representation. The user has entered '7', and the output is '111'.

```
n = int(input ("please enter a decimal number: "))
b = []
while (n!= 0):
    r = n% 2
    b.append(r)
    n = n// 2
b.reverse()
for i in range(0,len(b)):
    b[i]=int (b[i])
    print (b[i],end="")
```

Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/ASUS/AppData/Local/Programs/Python/Python37/2.py =====
please enter a decimal number: 7
111
>>> |

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.



```
3.py - C:\Users\ASUS\AppData\Local\Programs\Python\Python37\3.py (3.7.2)
File Edit Format Run Options Window Help
file1=open('D:\\binary.txt','r')
file2=open('D:\\user.txt','w')
ok=0
for i in file1:
    print(i[:i.index('=')])
    s=input('enter ans :')
    if s == i[i.index('='):].rstrip() :
        ok=ok+1
name=input('enter username: ')
print(name, 'answer on',ok, 'from 20 ')
file2.write(name+'\t' +str(ok))
file1.close()
file2.close()
```

الخرج :

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\ASUS\AppData\Local\Programs\Python\Python37\3.py =====
dec 0 binary
enter ans :00000
dec 1 binary
enter ans :00001
dec 2 binary
enter ans :00010
dec 3 binary
enter ans :00011
dec 4 binary
enter ans :00100
dec 5 binary
enter ans :00101
dec 6 binary
enter ans :00110
dec 7 binary
enter ans :00111
dec 8 binary
enter ans :01000
dec 9 binary
enter ans :01001
dec 10 binary
enter ans :01010
dec 11 binary
enter ans :01011
dec 12 binary
enter ans :01100
dec 13 binary
enter ans :|
```