

Assignment #3

IMT 511: Introduction to Programming

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1 Chapter 3

1. Codes

```
1 # 3-1: Names
2
3 print("3-1 Names")
4 names = ['Lexi', 'Jen', 'Andy']
5
6 print(names[0])
7 print(names[1])
8 print(names[2])
9
10 print("\n3-2 Greetings")
11
12 for name in names:
13     msg = "Hello, " + name.title() + "!"
14     print(msg)
15
16 print("\n3-4 Guest List")
17
18 guests = names
19
20 for guest in guests:
21     msg = "Hello, " + guest.title() + ", please come to the party!"
22     print(msg)
23
24
25 print("\n3-5 Changing Guest List")
26
27 # Invite some people to dinner.
28 guests = names
29
30 for guest in guests:
31     msg = "Hello, " + guest.title() + ", please come to the party!"
32     print(msg)
33
34 print("\nSorry, " + guests[1].title() + " can't make it to dinner.")
35
36 # Jen can't make it! Let's invite Tom instead.
37 del(guests[1])
38 guests.insert(1, 'Tom')
39
40 # Print the invitations again.
41 for guest in guests:
42     msg = "Hello, " + guest.title() + ", please come to the party"
43     print(msg)
44
45 print('\n')
46 print("3-6 More Guests")
47
48 # We got a bigger table, so let's add some more people to the list.
49 print("\nWe got a bigger table!")
50 guests.insert(0, 'Added friend 1')
51 guests.insert(2, 'Added friend 2')
```

```

52 guests.append('Added friend 3')
53
54 for guest in guests:
55     msg = "Hello, " + guest.title() + ", please come to the party!"
56     print(msg)
57     print('\n')
58
59
60 print('3-7 Shrinking Guest List')
61
62 # Oh no, the table won't arrive on time!
63 print("\nSorry, we can only invite two people to dinner.")
64
65 while (len(guests) > 2):
66
67     name = guests.pop()
68     print("Sorry, " + name.title() + " there's no room at the table.")
69
70 # There should be two people left. Let's invite them.
71 for guest in guests:
72     msg = "Hello, " + guest.title() + ", please come to the party!"
73     print(msg)
74
75 # Empty out the list.
76
77 while (len(guests) > 0):
78     del(guests[0])
79
80 # Prove the list is empty.
81 print(guests)
82 print('\n')
83
84 print('3-8 Seeing the World')
85
86 locations = ['Spain', 'Iceland', 'Greece', 'Japan', 'Korea']
87
88 print("Original order:")
89 print(locations)
90
91 print("\nAlphabetical:")
92 print(sorted(locations))
93
94 print("\nOriginal order:")
95 print(locations)
96
97 print("\nReverse alphabetical:")
98 print(sorted(locations, reverse=True))
99
100 print("\nOriginal order:")
101 print(locations)
102
103 print("\nReversed:")
104 locations.reverse()
105 print(locations)
106
107 print("\nOriginal order:")
108 locations.reverse()
109 print(locations)
110
111 print("\nAlphabetical")
112 locations.sort()
113 print(locations)
114
115 print("\nReverse alphabetical")
116 locations.sort(reverse=True)
117 print(locations)

```

2. Output:

3-1 Names

Lexi

Jen

Andy

3-2 Greetings

Hello, Lexi!

Hello, Jen!

Hello, Andy!

3-4 Guest List

Hello, Lexi ,please come to the party!

Hello, Jen ,please come to the party!

Hello, Andy ,please come to the party!

3-5 Changing Guest List

Hello, Lexi ,please come to the party!

Hello, Jen ,please come to the party!

Hello, Andy ,please come to the party!

Sorry, Jen can't make it to dinner.

Hello, Lexi, please come to the party

Hello, Tom, please come to the party

3-6 More Guests

We got a bigger table!

Hello, Added Friend 1, please come to the party!

Hello, Lexi, please come to the party!

Hello, Added Friend 2, please come to the party!

Hello, Tom, please come to the party!

Hello, Andy, please come to the party!

Hello, Added Friend 3, please come to the party!

3-7 Shrinking Guest List

Sorry, we can only invite two people to dinner.

Sorry, Added Friend 3 there's no room at the table.

Sorry, Andy there's no room at the table.

Sorry, Tom there's no room at the table.

Sorry, Added Friend 2 there's no room at the table.

Hello, Added Friend 1, please come to the party!

Hello, Lexi, please come to the party!

[]

```

3-8 Seeing the World
Original order:
['Spain', 'Iceland', 'Greece', 'Japan', 'Korea']

Alphabetical:
['Greece', 'Iceland', 'Japan', 'Korea', 'Spain']

Original order:
['Spain', 'Iceland', 'Greece', 'Japan', 'Korea']

Reverse alphabetical:
['Spain', 'Korea', 'Japan', 'Iceland', 'Greece']

Original order:
['Spain', 'Iceland', 'Greece', 'Japan', 'Korea']

Reversed:
['Korea', 'Japan', 'Greece', 'Iceland', 'Spain']

Original order:
['Spain', 'Iceland', 'Greece', 'Japan', 'Korea']

Alphabetical
['Greece', 'Iceland', 'Japan', 'Korea', 'Spain']

Reverse alphabetical
['Spain', 'Korea', 'Japan', 'Iceland', 'Greece']

```

2 Chapter 4

1. Codes

```

1 print('4-1 Pizzas')
2
3 favorite_pizzas = ['Hawaiian', 'Cheese', 'Mushroom']
4
5 # Print the names of all the pizzas.
6 for pizza in favorite_pizzas:
7     print(pizza)
8
9 print("\n")
10
11 # Print a sentence about each pizza.
12 for pizza in favorite_pizzas:
13     print("My favorite pizza is " + pizza + " pizza!")
14 print('\n')
15 print('4-3: Counting to Twenty')
16 numbers = list(range(1, 21))
17
18 for number in numbers:
19     print(number)
20 print('\n')
21 print('4-5: Summing a Million')
22 numbers = list(range(1, 1000001))
23
24 print(min(numbers))
25 print(max(numbers))

```

```

26 print(sum(numbers))
27
28 print('\n')
29
30 print('4-8: Cubes')
31 cubes = []
32 for number in range(1, 11):
33     cube = number**3
34     cubes.append(cube)
35
36 for cube in cubes:
37     print(cube)
38
39 print('\n')
40
41 print('4-9: Cube Comprehension')
42 cubes = [number**3 for number in range(1,11)]
43
44 for cube in cubes:
45     print(cube)
46 print('\n')
47
48
49 print('4-11: My Pizzas, Your Pizzas')
50 favorite_pizzas = ['Hawaiian', 'Cheese', 'Mushroom']
51 friend_pizzas = favorite_pizzas[:]
52
53 favorite_pizzas.append("Sausage")
54 friend_pizzas.append('Tomato')
55
56 print("My favorite pizzas are:")
57 for pizza in favorite_pizzas:
58     print("- " + pizza)
59
60 print("\nMy friend's favorite pizzas are:")
61 for pizza in friend_pizzas:
62     print("- " + pizza)

```

2. Output:

4-1 Pizzas

Hawaiian

Cheese

Mushroom

My favorite pizza is Hawaiian pizza!

My favorite pizza is Cheese pizza!

My favorite pizza is Mushroom pizza!

4-3: Counting to Twenty

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

4-5: Summing a Million

1

1000000

500000500000

4-8: Cubes

1

8

27

64

125

216

343

512

729

1000

4-9: Cube Comprehension

1

8

27

64

125

216

343

512

729

1000

4-11: My Pizzas, Your Pizzas

My favorite pizzas are:

- Hawaiian
- Cheese
- Mushroom
- Sausage

My friend's favorite pizzas are:

- Hawaiian
- Cheese
- Mushroom
- Tomato

3 Part B

1.Codes:

```
1 print('part B')
2 favorite_foods = ['burgers', 'pizzas', 'cakes']
3 print('original list: ')
4 print(favorite_foods)
5
6 new_food = raw_input('enter your favorite food!')
7 favorite_foods.append(new_food)
8 print('\n')
9 print('new list: \n')
10 print(favorite_foods)
```

2. Output:

```
part B
original list:
['burgers', 'pizzas', 'cakes']
enter your favorite food!coffee

new list:
['burgers', 'pizzas', 'cakes', 'coffee']
```