Python Code Reading Recitation A

Using List (1/2)

```
1   # 3-1 bicycles.py
2
3   bicycles = ['trek', 'cannondale', 'redline', 'specialized']
4   message = "My first bicycle was a " + bicycles[0].title() + "."
5
6   print(message)
7
```

```
1   # 3-2 motorcyles.py
2
3   motorcycles = ['honda', 'yamaha', 'suzuki', 'ducati']
4   print(motorcycles)
5
6   too_expensive = 'ducati'
7   motorcycles.remove(too_expensive)
8   print(motorcycles)
9   print("\nA " + too_expensive.title() + " is too expensive for me.")
10
```

Using List [2/2]

```python
# 3-3 cars.py

cars = ['bmw', 'audi', 'toyota', 'subaru']

print("Here is the original list:")
print(cars)

print("\nHere is the sorted list:")
print(sorted(cars))

print("\nHere is the reverse alphabetical list:")
print(sorted(cars, reverse=True))

print("\nHere is the original list again:")
print(cars)
```
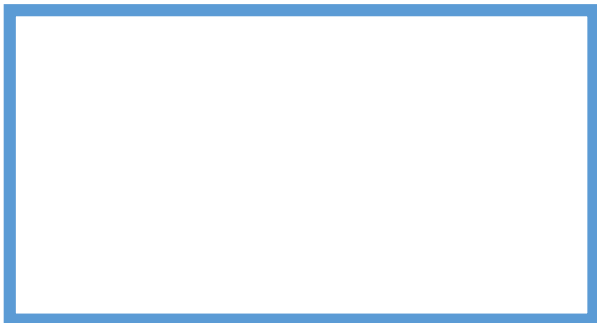
More List Codes   [1/3]

```python
# 4-1 magicians.py

magicians = ['alice', 'david', 'carolina']
for magician in magicians:
    print(magician.title() + ", that was a great trick!")
    print("I can't wait to see your next trick, " + magician.title() + ".\n")

print("Thank you everyone, that was a great magic show!")
```

```python
# 4-2 numbers.py

numbers = list(range(1,6))
print(numbers)
```

```python
# 4-3 even_numbers.py

even_numbers = list(range(2,11,2))
print(even_numbers)
```
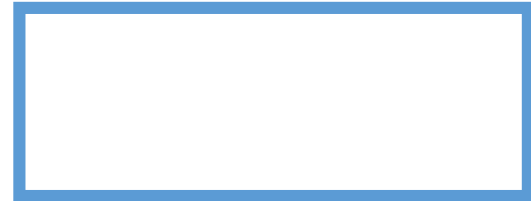
4

```
1    # 4-4 squares.py
2
3    squares = []
4    for value in range(1,11):
5        square = value**2
6        squares.append(square)
7
8    print(squares)
9
```



```
1    # 4-5 palyers.py
2
3    players = ['charles', 'martina', 'michael', 'florence', 'eli']
4
5    print("Here are the first three players on my team:")
6    for player in players[:3]:
7        print(player.title())
8
9
```

More List Codes [3/3]

```
1    # 4-6 foods.py
2
3    my_foods = ['pizza', 'falafel', 'carrot cake']
4    friend_foods = my_foods[:]
5
6    my_foods.append('cannoli')
7    friend_foods.append('ice cream')
8
9    print("My favorite foods are:")
10   print(my_foods)
11
12   print("\nMy friend's favorite foods are:")
13   print(friend_foods)
14
```

```
1    # 4-7 dimensions.py
2
3    dimensions = (200, 50)
4    print("Original dimensions:")
5    for dimension in dimensions:
6        print(dimension)
7
8    dimensions = (400, 100)
9    print("\nModified dimensions:")
10   for dimension in dimensions:
11       print(dimension)
12
```

6
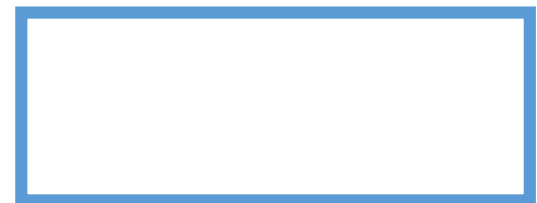
```python
1    # 5-1 cars.py
2
3    cars = ['audi', 'bmw', 'subaru', 'toyota']
4
5    for car in cars:
6        if car == 'bmw':
7            print(car.upper())
8        else:
9            print(car.title())
10
```

```python
1    # 5-2 toppings.py
2
3    available_toppings = ['mushrooms', 'olives', 'green peppers',
4                          'pepperoni', 'pineapple', 'extra cheese']
5
6    requested_toppings = ['mushrooms', 'french fries', 'extra cheese']
7
8    for requested_topping in requested_toppings:
9        if requested_topping in available_toppings:
10           print("Adding " + requested_topping + ".")
11       else:
12           print("Sorry, we don't have " + requested_topping + ".")
13
14   print("\nFinished making your pizza!")
15
```

7

```python
1  # 5-3 magic_number.py
2
3  answer = 17
4
5  if answer != 42:
6      print("That is not the correct answer. Please try again!")
7
```

➡️ [ ]

```python
1  # 5-4 banned_users.py
2
3  banned_users = ['andrew', 'carolina', 'david']
4  user = 'marie'
5
6  if user not in banned_users:
7      print(user.title() + ", you can post a response if you wish.")
8
```

➡️ [ ]

Code with IF   [3/3]

```
1    # 5-5 voting.py
2
3    age = 17
4    if age >= 18:
5        print("You are old enough to vote!")
6        print("Have you registered to vote yet?")
7    else:
8        print("Sorry, you are too young to vote.")
9        print("Please register to vote as soon as you turn 18!")
10
```



```
1    # 5-6 amusement_park.py
2
3    age = 12
4
5    if age < 4:
6        price = 0
7    elif age < 18:
8        price = 5
9    elif age < 65:
10       price = 10
11   elif age >= 65:
12       price = 5
13
14   print("Your admission cost is $" + str(price) + ".")
15
```

VS

```
age = 12

if age < 4:
    price = 0
elif age < 18:
    price = 5
elif age < 65:
    price = 10
else:
    price = 5

print("Your admission cost is $" + str(price) + ".")
```

위의 두 code의
차이는?

9

```python
 1   #   6-1 alien.py
 2
 3   alien_0 = {'x_position': 0, 'y_position': 25, 'speed': 'medium'}
 4   print("Original position: " + str(alien_0['x_position']))
 5
 6   # Move the alien to the right.
 7   # Figure out how far to move the alien based on its speed.
 8   if alien_0['speed'] == 'slow':
 9       x_increment = 1
10   elif alien_0['speed'] == 'medium':
11       x_increment = 2
12   else:
13       # This must be a fast alien.
14       x_increment = 3
15
16   # The new position is the old position plus the increment.
17   alien_0['x_position'] = alien_0['x_position'] + x_increment
18
19   print("New position: " + str(alien_0['x_position']))
20
```

10

```
1    # 6-2 favorite_languages.py
2
3  ⊟favorite_languages = {
4        'jen': 'python',
5        'sarah': 'c',
6        'edward': 'ruby',
7        'phil': 'python',
8        }
9
10 ⊟for name, language in favorite_languages.items():
11 ⊟    print(name.title() + "'s favorite language is " +
12            language.title() + ".")
13
```

```
1    # 6-3 user.py
2
3  ⊟user_0 = {'username': 'efermi',
4              'first': 'enrico',
5              'last': 'fermi',
6              }
7
8  ⊟for key, value in user_0.items():
9        print("\nKey: " + key)
10       print("Value: " + value)
11
```

```python
1    # 6-4 aliens.py
2
3    # Make an empty list for storing aliens.
4    aliens = []
5
6    # Make 30 green aliens.
7    for alien_number in range (0,30):
8        new_alien = {'color': 'green', 'points': 5, 'speed': 'slow'}
9        aliens.append(new_alien)
10
11   for alien in aliens[0:3]:
12       if alien['color'] == 'green':
13           alien['color'] = 'yellow'
14           alien['speed'] = 'medium'
15           alien['points'] = 10
16       elif alien['color'] == 'yellow':
17           alien['color'] = 'red'
18           alien['speed'] = 'fast'
19           alien['points'] = 15
20
21   # Show the first 5 aliens:
22   for alien in aliens[0:5]:
23       print(alien)
24   print("...")
25
```

12
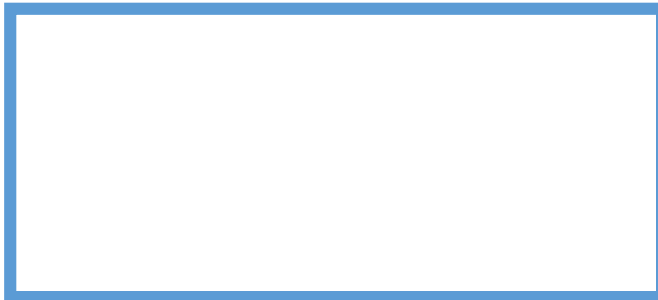
```python
1   # 6-5 pizza.py
2
3   # Store information about a pizza being ordered.
4   pizza = {
5       'crust': 'thick',
6       'toppings': ['mushrooms', 'extra cheese'],
7       }
8
9   # Summarize the order.
10  print("You ordered a " + pizza['crust'] + "-crust pizza " +
11      "with the following toppings:")
12
13  for topping in pizza['toppings']:
14      print("\t" + topping)
15
```
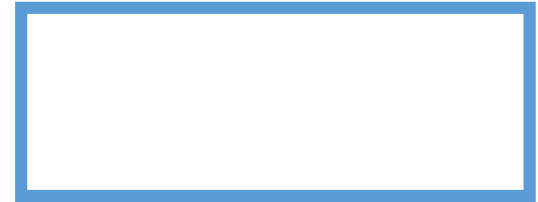
```python
1   # 6-6 many_users.py
2
3   users = {'aeinstein': {'first': 'albert',
4                          'last': 'einstein',
5                          'location': 'princeton'},
6           'mcurie': {'first': 'marie',
7                      'last': 'curie',
8                      'location': 'paris'},
9           }
10
11  for username, user_info in users.items():
12      print("\nUsername: " + username)
13      full_name = user_info['first'] + " " + user_info['last']
14      location = user_info['location']
15
16      print("\tFull name: " + full_name.title())
17      print("\tLocation: " + location.title())
18
```

13

```
1    # 7-1 parrot.py
2
3    prompt = "\nTell me something, and I will repeat it back to you:"
4    prompt += "\nEnter 'quit' to end the program. "
5
6    active = True
7    while active:
8        message = input(prompt)
9
10       if message == 'quit':
11           active = False
12       else:
13           print(message)
14
```

```
1    # 7-2 greeter.py
2
3    prompt = "If you tell us who you are, we can personalize the messages you see."
4    prompt += "\nWhat is your first name? "
5
6    name = input(prompt)
7    print("\nHello, " + name + "!")
8
```

14

```
1    #   7-3 rollercoaster.py
2
3    height = input("How tall are you, in inches? ")
4    height = int(height)
5
6    if height >= 36:
7        print("\nYou're tall enough to ride!")
8    else:
9        print("\nYou'll be able to ride when you're a little older.")
10
```

➡️

```
1    # 7-4 even_or_odd.py
2
3    number = input("Enter a number, and I'll tell you if it's even or odd: ")
4    number = int(number)
5
6    if number % 2 == 0:
7        print("\nThe number " + str(number) + " is even.")
8    else:
9        print("\nThe number " + str(number) + " is odd.")
10
```

➡️

15

```
1    # 7-5 counting.py
2
3    current_number = 1
4   ⊟while current_number <= 5:
5        print(current_number)
6        current_number += 1
7
```

⇒

```
1    # 7-6 cities.py
2
3    prompt = "\nPlease tell me a city you have visited:"
4    prompt += "\n(Enter 'quit' when you are finished.) "
5
6   ⊟while True:
7        city = input(prompt)
8
9        if city == 'quit':
10           break
11       else:
12           print("I'd love to go to " + city.title() + "!")
13
```

⇒

```python
# 7-7 confirmed_users.py


# Start out with some users that need to be verified,
#  and an empty list to hold confirmed users.
unconfirmed_users = ['alice', 'brian', 'candace']
confirmed_users = []

# Verify each user, until there are no more unconfirmed users.
#  Move each verified user into the list of confirmed users.
while unconfirmed_users:
    current_user = unconfirmed_users.pop()

    print("Verifying user: " + current_user.title())
    confirmed_users.append(current_user)

# Display all confirmed users.
print("\nThe following users have been confirmed:")
for confirmed_user in confirmed_users:
    print(confirmed_user.title())
```

```python
# 7-8 pets.py

pets = ['dog', 'cat', 'dog', 'goldfish', 'cat', 'rabbit', 'cat']
print(pets)

while 'cat' in pets:
    pets.remove('cat')

print(pets)
```

17

```python
 1    # 7-9 mountain_poll.py
 2
 3    responses = {}
 4
 5    # Set a flag to indicate that polling is active.
 6    polling_active = True
 7
 8    while polling_active:
 9        # Prompt for the person's name and response.
10        name = input("\nWhat is your name? ")
11        response = input("Which mountain would you like to climb someday? ")
12
13        # Store the response in the dictionary:
14        responses[name] = response
15
16        # Find out if anyone else is going to take the poll.
17        repeat = input("Would you like to let another person respond? (yes/ no) ")
18        if repeat == 'no':
19            polling_active = False
20
21    # Polling is complete. Show the results.
22    print("\n--- Poll Results ---")
23    for name, response in responses.items():
24        print(name + " would like to climb " + response + ".")
25
```


18