

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
```

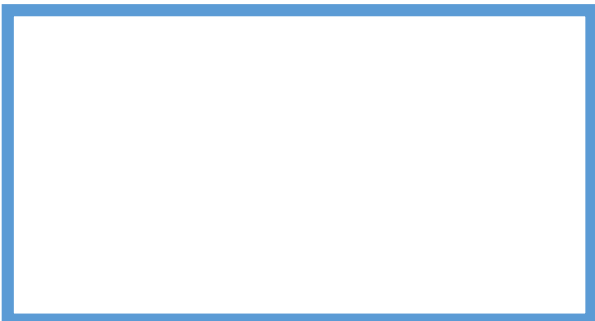


```
1 # 3-2 motorcyles.py
2
3 motorcycles = ['honda', 'yamaha', 'suzuki', 'ducati']
4 print(motorcycles)
5
6 too_expensive = 'ducati'
7 motorcycles.remove(too_expensive)
8 print(motorcycles)
9 print("\nA " + too_expensive.title() + " is too expensive for me.")
10
```



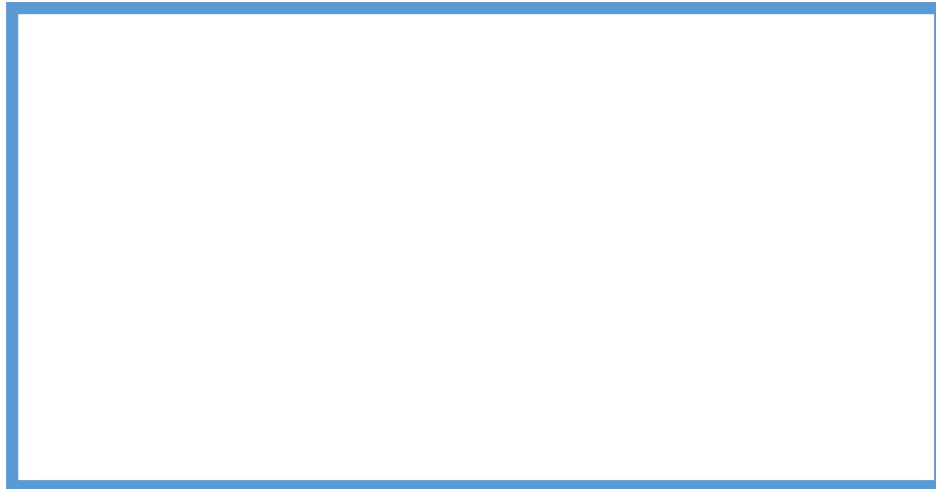
Using List [2/2]

```
1  # 3-3 cars.py
2
3  cars = ['bmw', 'audi', 'toyota', 'subaru']
4
5  print("Here is the original list:")
6  print(cars)
7
8  print("\nHere is the sorted list:")
9  print(sorted(cars))
10
11 print("\nHere is the reverse alphabetical list:")
12 print(sorted(cars, reverse=True))
13
14 print("\nHere is the original list again:")
15 print(cars)
16
```



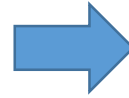
More List Codes [1/5]

```
1  # 4-1 magicians.py
2
3  magicians = ['alice', 'david', 'carolina']
4  for magician in magicians:
5      print(magician.title() + ", that was a great trick!")
6      print("I can't wait to see your next trick, " + magician.title() + ".\n")
7
8  print("Thank you everyone, that was a great magic show!")
```



More List Codes [2/5]

```
1 # 4-2 numbers.py
2
3 numbers = list(range(1,6))
4 print(numbers)
5
```



```
1 # 4-3 even_numbers.py
2
3 even_numbers = list(range(2,11,2))
4 print(even_numbers)
5
```

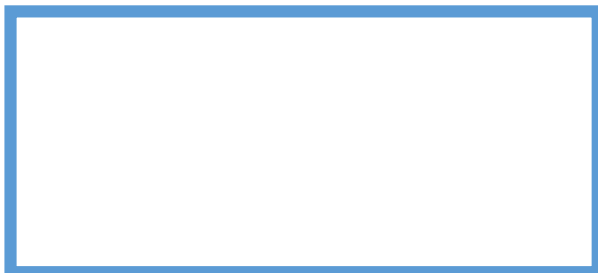


More List Codes [3/5]

```
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
```

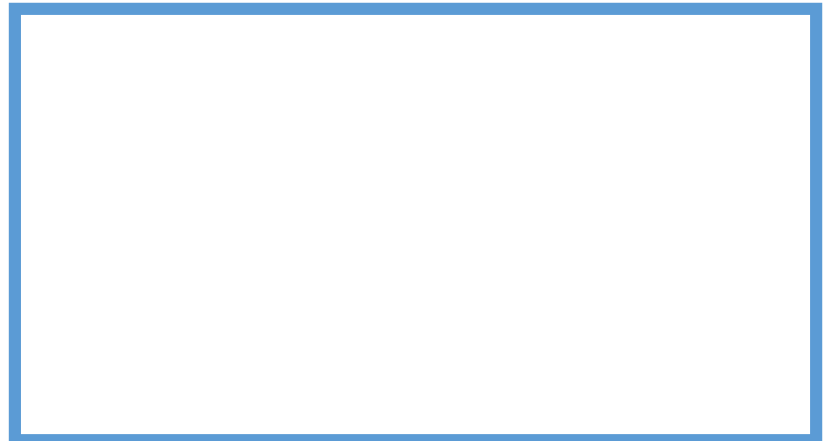


```
1 # 4-5 palyers.py
2
3 players = ['charles', 'martina', 'michael', 'florence', 'eli']
4
5 print("Here are the first three players on my team:")
6 for player in players[:3]:
7     print(player.title())
```



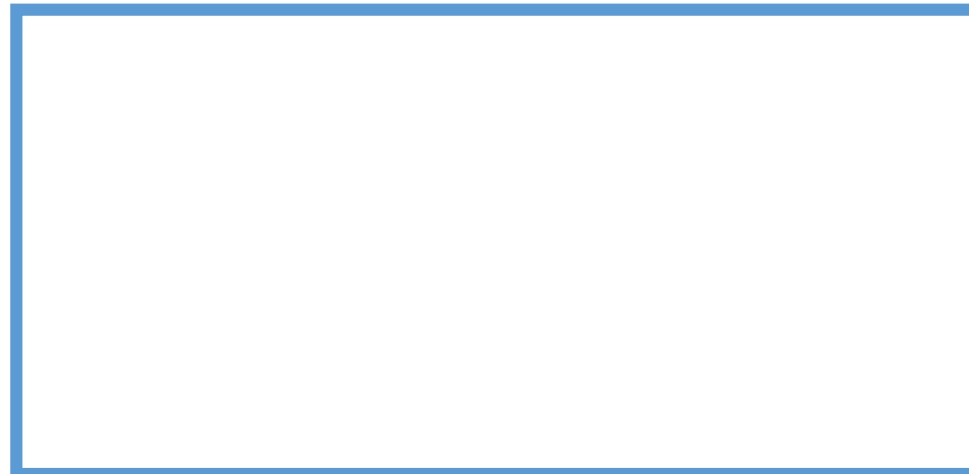
More List Codes [4/5]

```
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)
```



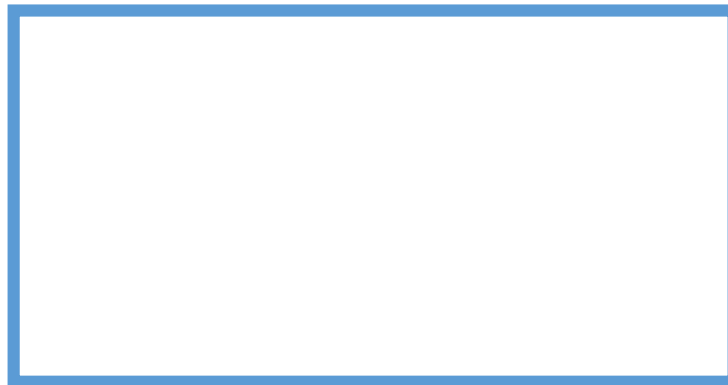
More List Codes [5/5]

```
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)
```



Code with IF [1/5]

```
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())
```



Code with IF [2/5]

```
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!")
```

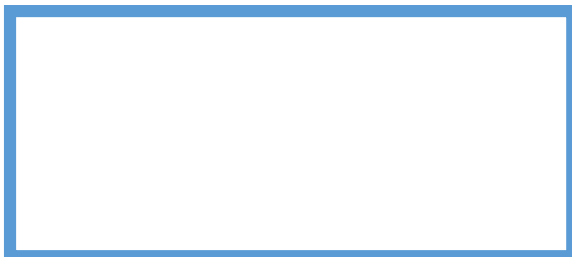


Code with IF [3/5]

```
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!")
```

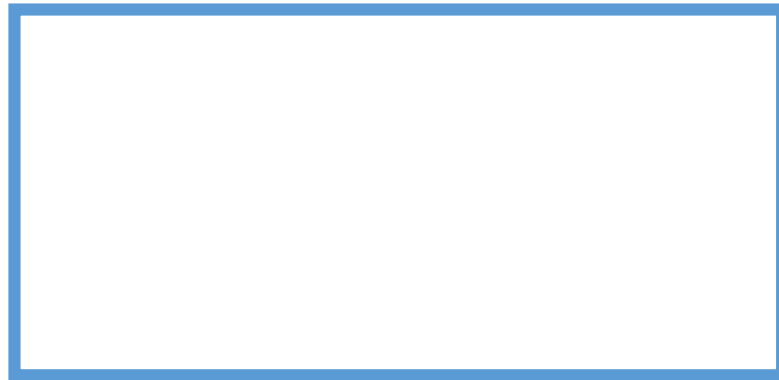


```
1 # 5-4 banned_users.py
2
3 banned_users = ['andrew', 'carolina', 'david']
4 user = 'marie'
5
6 if user not in banned_users:
7     print(user.title() + ", you can post a response if you wish.")
```



Code with IF [4/5]

```
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!")
```



Code with IF [5/5]

```
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) + ".")
```

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?


Code with Dictionary [1/5]

```
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']))
```




Code with Dictionary [2/5]

```
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() + ".")
```



```
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)
```



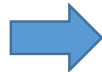
Code with Dictionary [3/5]

```
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("...")
```



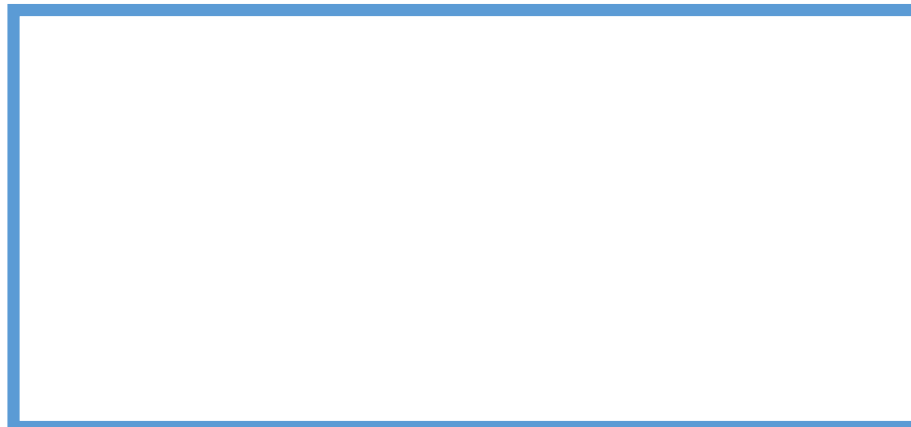
Code with Dictionary [4/5]

```
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)
```




Code with Dictionary [5/5]

```
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())
```




While Loop Code [1/5]

```
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)
```

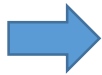


```
1  # 7-2 greeter.py
2
3  prompt = "If you tell us who you are, we can personalize the messages you see."
4  prompt += "\nWhat is your first name? "
5
6  name = input(prompt)
7  print("\nHello, " + name + "!")
```



While Loop Code [2/5]

```
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.")
```




```
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.")
```




While Loop Code [3/5]

```
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
```



While Loop Code [4/5]

```
1  # 7-7 confirmed_users.py
2
3
4  # Start out with some users that need to be verified,
5  # and an empty list to hold confirmed users.
6  unconfirmed_users = ['alice', 'brian', 'candace']
7  confirmed_users = []
8
9  # Verify each user, until there are no more unconfirmed users.
10 # Move each verified user into the list of confirmed users.
11 while unconfirmed_users:
12     current_user = unconfirmed_users.pop()
13
14     print("Verifying user: " + current_user.title())
15     confirmed_users.append(current_user)
16
17 # Display all confirmed users.
18 print("\nThe following users have been confirmed:")
19 for confirmed_user in confirmed_users:
20     print(confirmed_user.title())
```



```
1  # 7-8 pets.py
2
3  pets = ['dog', 'cat', 'dog', 'goldfish', 'cat', 'rabbit', 'cat']
4  print(pets)
5
6  while 'cat' in pets:
7      pets.remove('cat')
8
9  print(pets)
10
```



While Loop Code [5/5]

```
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 + ".")
```

