Ch 7-A: Python Code Reading Recitation-A

Code using List [1/7]

```
bicycles = ['trek', 'cannondale', 'redline', 'specialized']
message = "My first bicycle was a " + bicycles[0].title() + "."
print (message)
```

```
motorcycles = ['honda', 'yamaha', 'suzuki', 'ducati']
print(motorcycles)

too_expensive = 'ducati'
motorcycles.remove(too_expensive)
print(motorcycles)
print("  \nA " + too_expensive.title() + " is too expensive for me.")
```

Code using List [2/7]

```
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)
```

Code using List [3/7]

```
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!")
```

Code using List [4/7]

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

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

Code using List [5/7]

```
squares = []
for value in range(1,11):
    square = value **2
    squares.append(square)

print(squares)
```

```
players = ['charles', 'martina', 'michael', 'florence', 'eli']

print("Here are the first three players on my team:")
for player in players[:3]:
    print(player.title())
```

Code using List [6/7]

```
my_foods = ['pizza', 'falafel', 'carrot cake']
friend_foods = my_foods[:]

my_foods.append('cannoli')
friend_foods.append('ice cream')

print("My favorite foods are:")
print(my_foods)

print("\nMy friend's favorite foods are:")
print(friend_foods)
```

Code using List [7/7]

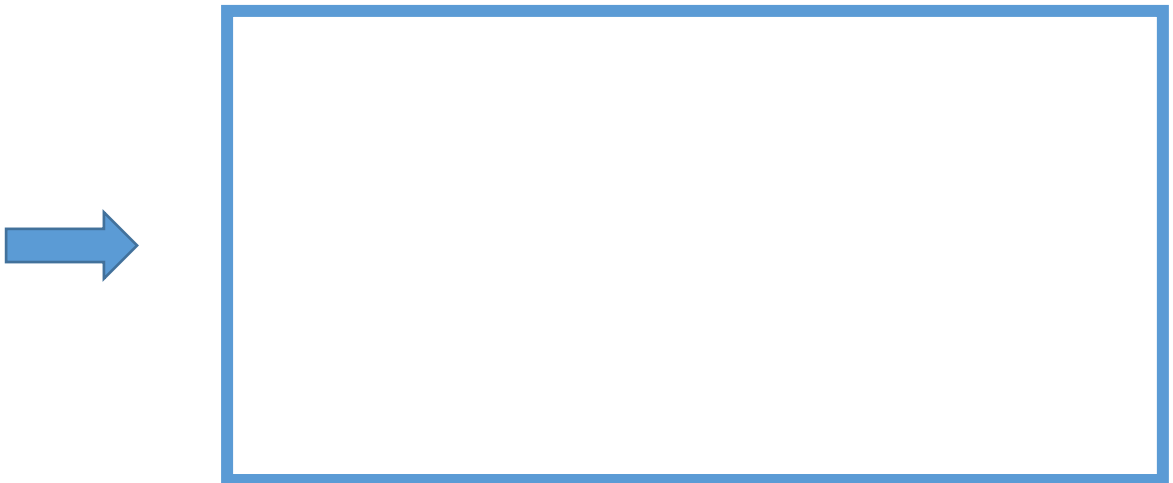
```
dimensions = (200,50)
print("Original dimensions:")
for dimension in dimensions:
    print(dimension)

dimensions = (400,100)
print("\nModified dimensions:")
for dimension in dimensions:
    print(dimension)
```

Code with IF Statement [1/5]

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

for car in cars:
    if car == 'bmw':
        print(car.upper())
    else:
        print(car.title())
```

Code with IF Statement [2/5]

```
available_toppings = ['mushrooms', 'olives', 'green peppers',
                      'pepperoni', 'pineapple', 'extra cheese']

requested_toppings = ['mushrooms', 'french fries', 'extra cheese']

for requested_topping in requested_toppings:
    if requested_topping in available_toppings:
        print("Adding " + requested_topping + ".")
    else:
        print("Sorry, we don't have " + requested_topping + ".")

print("\nFinished making your pizza!")
```



Code with IF Statement [3/5]

```
answer = 17

if answer != 42:
    print("That is not the correct answer. Please try again!")
```

```
banned_users = ['andrew', 'carolina', 'david']
user = 'marie'

if user not in banned_users:
    print(user.title() + ", you can post a response if you wish.")
```

Code with IF Statement [4/5]

```
age = 17
if age >= 18:
    print("You are old enough to vote!")
    print("Have you registered to vote yet?")
else:
    print("Sorry, you are too young to vote.")
    print("Please register to vote as soon as you turn 18!")
```

Code with IF Statement [5/5]

VS

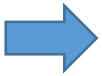
```
age = 12

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

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

```
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?

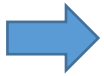
Code with Dictionary [1/5]

```
alien_0 = {'x_position' : 0, 'y_position' : 25, 'speed': 'medium'}
print("Original position: " + str(alien_0['x_position']))

# Move the alien to the right.
# Figure out how far to move the alien based on its speed.
if alien_0['speed'] == 'slow':
    x_increment = 1
elif alien_0['speed'] == 'medium':
    x_increment = 2
else:
    # This must be a fast alien.
    x_increment = 3

# The new position is the old position plus the increment.
alien_0['x_position'] = alien_0['x_position'] + x_increment

print("New Position: " + str(alien_0['x_position']))
```

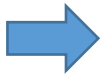


Code with Dictionary [2/5]

```
favorite_languages = {
    'jen' : 'python',
    'sarah' : 'c',
    'edward' : 'ruby',
    'phil' : 'python',
    }

for name,language in
favorite_languages.items():
    print(name.title() + "'s favorite language is "
          + language.title() + ".")
```



```
user_0 = {'username' : 'efermi',
          'first' : 'enrico',
          'last' : 'fermi',
          }

for key,value in user_0.items():
    print("\nKey: " + key)
    print("Value: " + value)
```



Code with Dictionary [3/5]

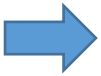
```
# Make an empty list for storing aliens.
aliens = []

# Make 30 green aliens.
for alien_number in range (0, 30):
    new_alien = {'color' : 'green', 'points' : 5, 'speed' :
'slow'}
    aliens.append(new_alien)

for alien in aliens[0:3]:
    if alien['color'] == 'green':
        alien['color'] = 'yellow'
        alien['speed'] = 'medium'
        alien['points'] = 10
    elif alien['color'] == 'yellow':
        alien['color'] = 'red'
        alien['speed'] = 'fast'
        alien['points'] = 15

# Show the first 5 aliens:
for alien in aliens[0:5]:
    print(alien)
print("...")
```

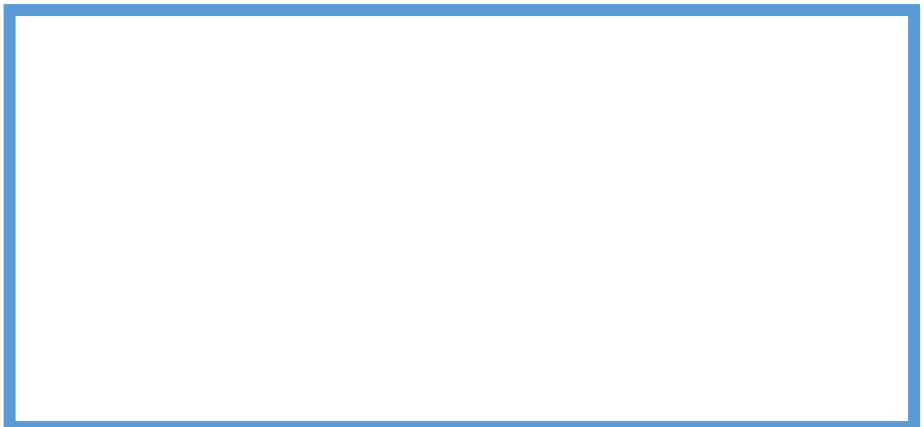
Code with Dictionary [4/5]

```
# Store information about a pizza being ordered.
pizza = {
    'crust': 'thick',
    'toppings' : ['mushrooms', 'extra cheese'],
    }

# Summarize the order.
print("You ordered a " + pizza['crust'] + "-crust pizza " +
      "with the following toppings:")

for topping in pizza['toppings']:
    print("\t" + topping)
```

Code with Dictionary [5/5]

```
users = {'aeinstein' : {'first' : 'albert',
                        'last': 'einstein',
                        'location': 'princeton'},
         'mcurie': {'first' : 'marie',
                    'last' : 'curie',
                    'location' : 'paris'},
        }

for username, user_info in users.items():
    print("\nUsername: " + username)
    full_name = user_info['first'] + " " + user_info['last']
    location = user_info['location']

    print("\tFull name: " + full_name.title())
    print("\tLocation: " + location.title())
```





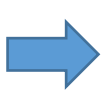
Code with While Loop [1/5]

```
prompt = "\nTell me something, and I will repeat it back to you:"
prompt += "\nEnter 'quit' to end the program. "

active = True
while active:
    message = input(prompt)
    if message == 'quit':
        active = False
    else:
        print(message)
```

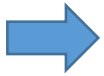
```
prompt = "If you tell us who you are, we can personalize the messages you see."
prompt += "\nWhat is your first name? "

name = input(prompt)
print("\nHello, " + name + "!")
```

Code with While Loop [2/5]

```
height = input("How tall are you, in inches? ")
height = int(height)

if height >= 36:
    print("\nYou're tall enough to ride!")
else:
    print("\nYou'll be able to ride when you're a little order.")
```



```
number = input("Enter a number, and I'll tell you if it's even or odd: ")
number = int (number)

if number % 2 == 0:
    print("\nThe number " + str(number) + " is even.")
else:
    print("\nThe number " + str(number) + " is odd.")
```



Code with While Loop [3/5]

```
current_number = 1
while current_number <= 5:
    print(current_number)
    current_number +=1
```

```
prompt = "\nPlease tell me a city you have visited: "
prompt += "\n(Enter 'quit' when you are finished.)"

while True:
    city = input(prompt)

    if city == 'quit':
        break
    else:
        print("I'd love to go to " + city.title() + "!")
```

Code with While Loop [4/5]

```
# 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())
```

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

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

print(pets)
```

Code with While Loop [5/5]

```
responses = {}

# Set a flag to indicate that polling is active.
polling_active = True

while polling_active:
    # Prompt for the person's name and response.
    name = input("\nWhat is your name?")
    response = input("Which mountain would you like to climb someday? ")

    # Store the response in the dictionary:
    responses[name] = response

    # Find out if anyoune else is going to take the poll.
    repeat = input("Would you like to let another person respond? (yes/no) ")
    if repeat == 'no':
        polling_active = False

# Polling is complete, show the results.
print("\n--- Poll Results ---")
for name, response in responses.items():
    print(name + " would like to climb " + response + ".")
```