Assignment # 5

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Part A

In [1]:
```
# 7-1

car = input("What kind of car would you like? ")

print("Let me see if I can find you a " + car.title() + ".")
```

```
What kind of car would you like? Honda
Let me see if I can find you a Honda.
```

In [2]:
```
# 7-2

party_size = input("How many people are in your dinner party tonight? ")
party_size = int(party_size)

if party_size > 8:
    print("I'm sorry, you'll have to wait for a table.")
else:
    print("Your table is ready.")
```

```
How many people are in your dinner party tonight? 4
Your table is ready.
```

In [3]:
```
# 7-3

number = input("Give me a number, please: ")
number = int(number)

if number % 10 == 0:
    print(str(number) + " is a multiple of 10.")
else:
    print(str(number) + " is not a multiple of 10.")
```

```
Give me a number, please: 4
4 is not a multiple of 10.
```

In [4]:
```
# 7-4

prompt = "\nWhat topping would you like on your pizza?"
prompt += "\nEnter 'quit' when you are finished: "

while True:
    topping = input(prompt)
    if topping != 'quit':
        print("  I'll add " + topping + " to your pizza.")
    else:
        break
```

```
What topping would you like on your pizza?
Enter 'quit' when you are finished: quit
```

In [5]:
```
# 7-5

prompt = "How old are you?"
prompt += "\nEnter 'quit' when you are finished. "

while True:
    age = input(prompt)
    if age == 'quit':
        break
    age = int(age)

    if age < 3:
        print("  You get in free!")
    elif age < 13:
        print("  Your ticket is $10.")
    else:
        print("  Your ticket is $15.")
```

```
How old are you?
Enter 'quit' when you are finished. 14
  Your ticket is $15.
How old are you?
Enter 'quit' when you are finished. quit
```

In [6]:
```
# 7-10

name_prompt = "\nWhat's your name? "
place_prompt = "If you could visit one place in the world, where would it be? "
continue_prompt = "\nWould you like to let someone else respond? (yes/no) "

# Responses will be stored in the form {name: place}.
responses = {}

while True:
    # Ask the user where they'd like to go.
    name = input(name_prompt)
    place = input(place_prompt)

    # Store the response.
    responses[name] = place

    # Ask if there's anyone else responding.
    repeat = input(continue_prompt)
    if repeat != 'yes':
        break

# Show results of the survey.
print("\n--- Results ---")
for name, place in responses.items():
    print(name.title() + " would like to visit " + place.title() + ".")
```

```
What's your name? emily
If you could visit one place in the world, where would it be? Apple

Would you like to let someone else respond? (yes/no) no

--- Results ---
Emily would like to visit Apple.
```

In [7]:
```
# 8-4

def make_shirt(size='large', message='I love Python!'):
    """Summarize the shirt that's going to be made."""
    print("\nI'm going to make a " + size + " t-shirt.")
    print('It will say, "' + message + '"')

make_shirt()
make_shirt(size='medium')
make_shirt('small', 'Programmers are loopy.')
```

```
I'm going to make a large t-shirt.
It will say, "I love Python!"

I'm going to make a medium t-shirt.
It will say, "I love Python!"

I'm going to make a small t-shirt.
It will say, "Programmers are loopy."
```

In [8]:
```
# 8-5

def describe_city(city, country='chile'):
    """Describe a city."""
    msg = city.title() + " is in " + country.title() + "."
    print(msg)

describe_city('santiago')
describe_city('reykjavik', 'iceland')
describe_city('punta arenas')
```

```
Santiago is in Chile.
Reykjavik is in Iceland.
Punta Arenas is in Chile.
```

In [9]:
```
# 8-14 cars

def make_car(manufacturer, model, **options):
    """Make a dictionary representing a car."""
    car_dict = {
        'manufacturer': manufacturer.title(),
        'model': model.title(),
        }
    for option, value in options.items():
        car_dict[option] = value

    return car_dict

my_outback = make_car('subaru', 'outback', color='blue', tow_package=True)
print(my_outback)

my_accord = make_car('honda', 'accord', year=1991, color='white',
        headlights='popup')
print(my_accord)
```

```
{'manufacturer': 'Subaru', 'model': 'Outback', 'color': 'blue', 'tow_package': True}
{'manufacturer': 'Honda', 'model': 'Accord', 'year': 1991, 'color': 'white', 'headlights': 'popup'}
```

Part B

5-1

In [2]:
```
# 5-1
# The problems are: (1) if there is lower-case input, the function can't recognize
# (2) If the first input is 'done', meaning there is no numbers stored, we can't calculate the average


prompt = "Enter a number of any size or 'done' when you are finished: "
count = 0
total = 0
while True:
    test = input(prompt)

    # solution: use .lower() to support lower-case input
    if test.lower() == "done" :
        break
    try:
        num = float(test)
    except:
        print("Invalid input. Please enter a number!")
        continue
    count = count + 1
    total = total + num
print("")
print("The sum is", total)
print("The number of values is", count)

# to prevent the situation when there is no input number, use an 'if' clause

if count > 0:
    print("The average is", total/count)
else:
    print('no number')
```

```
Enter a number of any size or 'done' when you are finished: done

The sum is 0
The number of values is 0
no number
```

5-2 and 5-3

In [7]:
```
prompt = "Enter a number of any size or 'done' when you are finished: "
count = 0
total = 0

nums = []
while True:
    test = input(prompt)
    if test.lower() == "done" :
        break
    try:
        num = float(test)
    except:
        print("Invalid input. Please enter a number!")
        continue
    count = count + 1
    total = total + num
    nums.append(num)

if count > 0:
    print("")
    print("The smallest value is", min(nums))
    print("The largest value is", max(nums))
    print("The sum is", round(total,2))
    print("The number of values is", count)
    print("The average is", round(total/count,2))
    print("")
    print("The numbers are:")
    for x in nums:
        print(x)
else:
    print("")
    print("No numbers")
```

```
Enter a number of any size or 'done' when you are finished: 3
Enter a number of any size or 'done' when you are finished: 4
Enter a number of any size or 'done' when you are finished: 5
Enter a number of any size or 'done' when you are finished: done

The smallest value is 3.0
The largest value is 5.0
The sum is 12.0
The number of values is 3
The average is 4.0

The numbers are:
3.0
4.0
5.0
```