Homework Problems

7-1. Rental Car: Write a program that asks the user what kind of rental car they would like. Print a message about that car, such as "Let me see if I can find you a Subaru."

In [1]:
```
car = input("Hello! Please enter what kind of car you would like to rent: ")
print(f"Let me see if I can find you a {car}.")
```

```
Hello! Please enter what kind of car you would like to rent: Honda
Let me see if I can find you a Honda.
```

7-2. Restaurant Seating: Write a program that asks the user how many people are in their dinner group. If the answer is more than eight, print a message saying they'll have to wait for a table. Otherwise, report that their table is ready.

In [2]:
```
people = input("Hello! Please enter how many people are in your dinner group: ")
if int(people) > 8:
    print("Sorry, you will have to wait for a table.")

else:
    print("Your table is ready!")
```

```
Hello! Please enter how many people are in your dinner group: 10
Sorry, you will have to wait for a table.
```

7-3. Multiple of Ten: Ask the user for a number, and then report whether the number is a multiple of 10 or not.

In [3]:
```
number = input("Please enter a number: ")
if float(number) % 10 == 0:
    print(f"{number}, is a multipule of 10.")

else:
    print(f"{number}, is not a multipule of 10.")
```

```
Please enter a number: 68.1
68.1, is not a multipule of 10.
```

7-4. Pizza Toppings: Write a loop that prompts the user to enter a series of pizza toppings until they enter a `'quit'` value. As they enter each topping, print a message saying you'll add that topping to their pizza.

In [4]:
```
while True:
    topping = input("Please enter a pizza topping (type 'quit' if done): ")

    if topping == 'quit':
        break

    print(f"Thank you. We will add {topping} to your pizza.")
```

```
Please enter a pizza topping (type 'quit' if done): meat
Thank you. We will add meat to your pizza.
Please enter a pizza topping (type 'quit' if done): peppers
Thank you. We will add peppers to your pizza.
Please enter a pizza topping (type 'quit' if done): quit
```

7-5. Movie Tickets: A movie theater charges different ticket prices depending on a person's age. If a person is under the age of 3, the ticket is free; if they are between 3 and 12, the ticket is $10; and if they are over age 12, the ticket is $15. Write a loop in which you ask users their age, and then tell them the cost of their movie ticket.

In [5]:
```
while True:
    age = input("Input your age (type 'quit' to cancel): ")
    if age == 'quit':
        break
    elif int(age) < 3:
        print("Your ticket is free.")
    elif 3 < int(age) < 12:
        print("Your ticket is $10.")
    else:
        print("Your ticket is $15.")
```

```
Input your age (type 'quit' to cancel): 2
Your ticket is free.
Input your age (type 'quit' to cancel): 11
Your ticket is $10.
Input your age (type 'quit' to cancel): 43
Your ticket is $15.
Input your age (type 'quit' to cancel): quit
```

7-6. Three Exits: Write different versions of either Exercise 7-4 or Exercise 7-5 that do each of the following at least once:

- Use a conditional test in the `while` statement to stop the loop.
- Use an active variable to control how long the loop runs.
- Use a `break` statement to ext the loop when the user enters a `'quit'` value.

In [6]:
```
topping = ''

while topping != 'quit':
    topping = input("Please enter a pizza topping (type 'quit' if done): ")

    if topping == 'quit':
        continue

    print(f"Thank you. We will add {topping} to your pizza.")

print("\n")
active = True

while active:
    topping = input("Please enter a pizza topping (type 'quit' if done): ")

    if topping == 'quit':
        active = False
        continue

    print(f"Thank you. We will add {topping} to your pizza.")

print("\n")

while True:
    topping = input("Please enter a pizza topping (type 'quit' if done): ")

    if topping == 'quit':
        break

    print(f"Thank you. We will add {topping} to your pizza.")
```

```
Please enter a pizza topping (type 'quit' if done): meat
Thank you. We will add meat to your pizza.
Please enter a pizza topping (type 'quit' if done): peppers
Thank you. We will add peppers to your pizza.
Please enter a pizza topping (type 'quit' if done): quit


Please enter a pizza topping (type 'quit' if done): meat
Thank you. We will add meat to your pizza.
Please enter a pizza topping (type 'quit' if done): peppers
Thank you. We will add peppers to your pizza.
Please enter a pizza topping (type 'quit' if done): quit


Please enter a pizza topping (type 'quit' if done): meat
Thank you. We will add meat to your pizza.
Please enter a pizza topping (type 'quit' if done): peppers
Thank you. We will add peppers to your pizza.
Please enter a pizza topping (type 'quit' if done): quit
```

7-7. Infinity: Write a loop that never ends, and run it. To stop the loop, press the black square (stop) button on the top toolbar.

In [7]:
```
while True:
    continue
```

```
---------------------------------------------------------------------------
KeyboardInterrupt                         Traceback (most recent call last)
Cell In[7], line 2
      1 while True:
----> 2     continue

KeyboardInterrupt:
```

7-8. Deli: Make a list called `sandwich_orders` and fill it with the names of at least five sandwiches. Then make an empty list called `finished_sandwiches`. Loop through the list of sandwich orders and print a message for each order, such as "I made your tuna sandwich". As each sandwich is made, move it to the list of finished sandwiches. After all the sandwiches have been made, print a message listing each sandwich that was made.

In [8]:
```
sandwich_orders = ['bacon', 'blt', 'pb&g', 'cheese', 'ham']
finished_sandwiches = []

while sandwich_orders:
    sandwich = sandwich_orders.pop()
    print(f"I made your {sandwich} sandwich.")
    finished_sandwiches.append(sandwich)

print(f"\nThe following sandwiches were made: ", end = '')
for sandwich in finished_sandwiches:
    if sandwich != finished_sandwiches[len(finished_sandwiches)-1]:
        print(f"{sandwich}", end = ', ')
    else:
        print(f"and {sandwich} ")
```

```
I made your ham sandwich.
I made your cheese sandwich.
I made your pb&g sandwich.
I made your blt sandwich.
I made your bacon sandwich.

The following sandwiches were made: ham, cheese, pb&g, blt, and bacon
```

7-9. No Pastrami: Using the list `sandwich_orders` from Exercise 7-8, make sure the sandwich `'pastrami'` appears in the list at least three times. Add code near the beginning of your program to print a message saying the deli has run out of pastrami, and then use a `while` loop to remove all occurrences of `'pastrami'` from `sandwich_orders`. Make sure no pastrami sandwiches end up in `finished_sandwiches`

In [10]:
```
sandwich_orders = ['bacon', 'blt', 'pb&g', 'pastrami', 'cheese', 'pastrami',
finished_sandwiches = []

print("Sorry, the deli has ran out of pastrami.\n")
while 'pastrami' in sandwich_orders:
    sandwich_orders.remove('pastrami')

while sandwich_orders:
    sandwich = sandwich_orders.pop()
    print(f"I made your {sandwich} sandwich.")
    finished_sandwiches.append(sandwich)

print(f"\nThe following sandwiches were made: ", end = '')
for sandwich in finished_sandwiches:
    if sandwich != finished_sandwiches[len(finished_sandwiches)-1]:
        print(f"{sandwich}", end = ', ')
    else:
        print(f"and {sandwich} ")
```

```
Sorry, the deli has ran out of pastrami.

I made your ham sandwich.
I made your cheese sandwich.
I made your pb&g sandwich.
I made your blt sandwich.
I made your bacon sandwich.

The following sandwiches were made: ham, cheese, pb&g, blt, and bacon
```

7-10. Dream Vacation: Write a program that polls users about their dream vacation. Write a prompt similar to *If you could visit one place in the world, where would you go?* Include a block of code that prints the results of the poll.

In [12]:
```
print("Dream Vacation Poll:")

vacation = {}

while True:
    name = input("\nWhat is your name? ")
    location = input("If you could visit one place in the world, where would y

    vacation[name] = location

    quit = input("Would you like to enter another response (yes/no)? ")

    if quit == 'no':
        break

print("\nPoll Results: \n")
for name, location in vacation.items():
    print(f"{name.title()} wants to visit {location.title()}")
```

```
Dream Vacation Poll:

What is your name? andrew
If you could visit one place in the world, where would you go? costa rica
Would you like to enter another response (yes/no)? yes

What is your name? maeve
If you could visit one place in the world, where would you go? thailand
Would you like to enter another response (yes/no)? no

Poll Results:

Andrew wants to visit Costa Rica
Maeve wants to visit Thailand
```

In [ ]: