Solutions - Chapter 7

***Note:****Sublime Text doesn’t run programs that prompt the user for input. You can use Sublime Text to write programs that prompt for input, but you’ll need to run these programs from a terminal. See “Running Python Programs from a Terminal” on page 16.*

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”.

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

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

Output:

What kind of car would you like? **Toyota Tacoma**

Let me see if I can find you a Toyota Tacoma.

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.

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.")

Output:

How many people are in your dinner party tonight? **12**

I'm sorry, you'll have to wait for a table.

or:

How many people are in your dinner party tonight? **6**

Your table is ready.

7-3: Multiples of Ten

Ask the user for a number, and then report whether the number is a multiple of 10 or not.

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.")

Output:

Give me a number, please: **23**

23 is not a multiple of 10.

or:

Give me a number, please: **90**

90 is a multiple 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.

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**

Output:

What topping would you like on your pizza?

Enter 'quit' when you are finished: **pepperoni**

I'll add pepperoni to your pizza.

What topping would you like on your pizza?

Enter 'quit' when you are finished: **sausage**

I'll add sausage to your pizza.

What topping would you like on your pizza?

Enter 'quit' when you are finished: **bacon**

I'll add bacon to your pizza.

What topping would you like on your pizza?

Enter 'quit' when you are finished: **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 tel them the cost of their movie ticket.

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.")

Output:

How old are you?

Enter 'quit' when you are finished. **2**

You get in free!

How old are you?

Enter 'quit' when you are finished. **3**

Your ticket is $10.

How old are you?

Enter 'quit' when you are finished. **12**

Your ticket is $10.

How old are you?

Enter 'quit' when you are finished. **18**

Your ticket is $15.

How old are you?

Enter 'quit' when you are finished. **quit**

7-8: Deli

Make a list called sandwich\_orders and fill it with the names of various 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.

sandwich\_orders **=** ['veggie', 'grilled cheese', 'turkey', 'roast beef']

finished\_sandwiches **=** []

**while** sandwich\_orders:

current\_sandwich **=** sandwich\_orders**.**pop()

**print**("I'm working on your " **+** current\_sandwich **+** " sandwich.")

finished\_sandwiches**.**append(current\_sandwich)

**print**("\n")

**for** sandwich **in** finished\_sandwiches:

**print**("I made a " **+** sandwich **+** " sandwich.")

Output:

I'm working on your roast beef sandwich.

I'm working on your turkey sandwich.

I'm working on your grilled cheese sandwich.

I'm working on your veggie sandwich.

I made a roast beef sandwich.

I made a turkey sandwich.

I made a grilled cheese sandwich.

I made a veggie sandwich.

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 occurences of 'pastrami'from sandwich\_orders. Make sure no pastrami sandwiches end up in finished\_sandiches.

sandwich\_orders **=** [

'pastrami', 'veggie', 'grilled cheese', 'pastrami',

'turkey', 'roast beef', 'pastrami']

finished\_sandwiches **=** []

**print**("I'm sorry, we're all out of pastrami today.")

**while** 'pastrami' **in** sandwich\_orders:

sandwich\_orders**.**remove('pastrami')

**print**("\n")

**while** sandwich\_orders:

current\_sandwich **=** sandwich\_orders**.**pop()

**print**("I'm working on your " **+** current\_sandwich **+** " sandwich.")

finished\_sandwiches**.**append(current\_sandwich)

**print**("\n")

**for** sandwich **in** finished\_sandwiches:

**print**("I made a " **+** sandwich **+** " sandwich.")

Output:

I'm sorry, we're all out of pastrami today.

I'm working on your roast beef sandwich.

I'm working on your turkey sandwich.

I'm working on your grilled cheese sandwich.

I'm working on your veggie sandwich.

I made a roast beef sandwich.

I made a turkey sandwich.

I made a grilled cheese sandwich.

I made a veggie sandwich.

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.

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() **+** ".")

Output:

What's your name? **eric**

If you could visit one place in the world, where would it be? **tierra del fuego**

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

What's your name? **erin**

If you could visit one place in the world, where would it be? **iceland**

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

What's your name? **ever**

If you could visit one place in the world, where would it be? **death valley**

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

--- Results ---

Ever would like to visit Death Valley.

Erin would like to visit Iceland.

Eric would like to visit Tierra Del Fuego.