Week 6 Assignment

Deadline: 21 September 2021, 9:00 A.M.

Submission:

1. Create StudentID_Firstname_Wk6 folder, where StudentID is your KU ID and Firstname is your given name.
2. Place files to submit: theater.py and bts_fee.py in the folder.
3. Compress the folder and submit the compressed file in Google Classroom by the submission deadline (Your compressed file should be named under StudentID_Firstname_Wk6)
4. Submit a summary text file (filename: summary.txt). In this summary, tell us what you have completed and what you have not. Submit in Google Classroom as well.

Grading Criteria:

1. Correctness (75%): Your program must run and give the expected result. Make sure your function names are defined correctly.
2. Cleanliness (25%): Your program must follow PEP8 convention; comments are added for others to understand your code easily.
   You can check out about PEP 8 convention here: ***https://www.python.org/dev/peps/pep-0008/***

Part 1 : Theater Reservation

Filename: theater.py

Text file: theater_reservation.txt

For this part 1, you can run program totally without the text file. In the case you do not want to type in many user inputs, you can use the given text file. However, you must write your own code to process the text file. Feel free to partially use read_file function from part2 or from Week5 Assignment.

Write the program for seat reservation in the theater. Note that a theater customer is called as a 'guest'. The program must be able to the followings:

1. Reserve seats
2. Display all seats are reserved by which guest
3. Display list of reserved seats by all guests
4. Compute payment based on the reserved seats of one guest
5. Report payments based on the reserved seats for all guests
6. Cancel one seat reservation

Program theater.py is partially given, along with doctest code. The program is split into the following functions: reserve_seats, display_seat_chart, display_guests, compute_one_guest_payment, report_all_payments, and cancel_one_seat_reservation. Each function is documented with docstring how it works, the parameters it receives and the value(s) it returns. When you run the program, make sure all doctest cases for all functions pass.

In addition to the above functions, function display_reserved_seats is given to display which seats are reserved or available. Note that 'X' is marked for reserved seats.

At the beginning of the program, you must call function create_theater to construct 3 dictionaries to store values as shown.

Theater seat is defined using row and seat index. For example, if row B has 8 seats, then seats in row B are called B1-B8.

The program gives two sets of theater information. Feel tree to use any of them to test your program. However, the following sample outputs will show results for Set 1 only.

For this program, it is assumed that guest names are unique.

For choices **2-6**, when there is no reservation, the program will show message "No guest reservation".

```
1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 2
No guest reservation.
```

Here are some sample outputs.

Sample output 1

```
1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 1
Enter name: John
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: C5
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |   |
C  |   |   |   |   | X |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
```

Sample output 2

```
1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 1
Enter name: Jim
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: B9
This seat is invalid.
Enter seat or (Q)uit: Q
Jim does not reserve seats.

1. Reserve seats
2. Display seat information
```

```
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: C5
This seat is already reserved.
Enter seat or (Q)uit: C11
This seat is invalid.
Enter seat or (Q)uit: C6
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |   |
C  |   |   |   |   | X | X |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: C4
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |   |
C  |   |   |   | X | X | X |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: Q
John reserves ['C5', 'C6', 'C4']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 2
Seat C4 is reserved by John
Seat C5 is reserved by John
Seat C6 is reserved by John
Total seats = 46
Number of reserved seats = 3

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 3
John reserves ['C5', 'C6', 'C4']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
```

```
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 3
No guest reservation.

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 1
Enter name: Jane
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: B2
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   | X |   |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: B3
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: Q
Jane reserves ['B2', 'B3']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 1
Enter name: Jack
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
```

```
Enter your choice: 4
John reserves ['C5', 'C6', 'C4']
Enter guest's name: Jon
Jon does not exist.
Enter guest's name: John
Payment for John = 450.00 Baht.

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 5
All payments:
John: 450.00 Baht

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 6
John reserves ['C5', 'C6', 'C4']
Enter guest's name: Jon
Jon does not exist.
Enter guest's name: John
Enter canceling seat: C3
John did not reserve C3

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 6
John reserves ['C5', 'C6', 'C4']
Enter guest's name: John
Enter canceling seat: C6
    |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |
B  |   |   |   |   |   |   |   |   |
C  |   |   |   | X | X |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
John reserves ['C5', 'C4']
Canceling is done.

1. Reserve seats
B  |   | X | X |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   |   |   |   |   |   |
Enter seat or (Q)uit: E6
    |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
Enter seat or (Q)uit: Q
Jack reserves ['E6']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 1
Enter name: Julia
    |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   |   |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
Enter seat or (Q)uit: D7
    |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   |   | X |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
Enter seat or (Q)uit: D6
    |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   |   | X | X |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
Enter seat or (Q)uit: D5
    |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   |   | X | X | X |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
```

```
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 7
```

```
Enter seat or (Q)uit: D4
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   | X | X | X | X |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
Enter seat or (Q)uit: Q
Julia reserves ['D7', 'D6', 'D5', 'D4']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 3
Jane reserves ['B2', 'B3']
Jack reserves ['E6']
Julia reserves ['D7', 'D6', 'D5', 'D4']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 2
Seat B2 is reserved by Jane
Seat B3 is reserved by Jane
Seat D4 is reserved by Julia
Seat D5 is reserved by Julia
Seat D6 is reserved by Julia
Seat D7 is reserved by Julia
Seat E6 is reserved by Jack
Total seats = 46
Number of reserved seats = 7

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 4
Jane reserves ['B2', 'B3']
Jack reserves ['E6']
Julia reserves ['D7', 'D6', 'D5', 'D4']
Enter guest's name: Jack
Payment for Jack = 120.00 Baht.
```

```
1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 5
All payments:
Jane: 400.00 Baht
Jack: 120.00 Baht
Julia: 600.00 Baht

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 6
Jane reserves ['B2', 'B3']
Jack reserves ['E6']
Julia reserves ['D7', 'D6', 'D5', 'D4']
Enter guest's name: Julia
Enter canceling seat: D7
   |  1|  2|  3|  4|  5|  6|  7|  8|  9| 10|
---|---|---|---|---|---|---|---|---|---|---|
A  |   |   |   |   |   |   |   |   |   |
B  |   | X | X |   |   |   |   |   |   |
C  |   |   |   |   |   |   |   |   |   |   |
D  |   |   |   | X | X | X |   |   |   |   |
E  |   |   |   |   |   | X |   |   |   |   |
Julia reserves ['D6', 'D5', 'D4']
Canceling is done.

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 4
Jane reserves ['B2', 'B3']
Jack reserves ['E6']
Julia reserves ['D6', 'D5', 'D4']
Enter guest's name: Julia
Payment for Julia = 450.00 Baht.

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
```

```
6. Cancel one seat reservation
7. Exit program
Enter your choice: 2
Seat B2 is reserved by Jane
Seat B3 is reserved by Jane
Seat D4 is reserved by Julia
Seat D5 is reserved by Julia
Seat D6 is reserved by Julia
Seat E6 is reserved by Jack
Total seats = 46
Number of reserved seats = 6

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 6
Jane reserves ['B2', 'B3']
Jack reserves ['E6']
Julia reserves ['D6', 'D5', 'D4']
Enter guest's name: Jack
Canceling is done.

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 3
Jane reserves ['B2', 'B3']
Julia reserves ['D6', 'D5', 'D4']

1. Reserve seats
2. Display seat information
3. Display guest information
4. Get payment for one guest
5. Display payments for all guests
6. Cancel one seat reservation
7. Exit program
Enter your choice: 2
Seat B2 is reserved by Jane
Seat B3 is reserved by Jane
Seat D4 is reserved by Julia
Seat D5 is reserved by Julia
Seat D6 is reserved by Julia
Total seats = 46
Number of reserved seats = 5

1. Reserve seats
2. Display seat information
```

	3. Display guest information 4. Get payment for one guest 5. Display payments for all guests 6. Cancel one seat reservation 7. Exit program Enter your choice: 5 All payments: Jane: 400.00 Baht Julia: 450.00 Baht 1. Reserve seats 2. Display seat information 3. Display guest information 4. Get payment for one guest 5. Display payments for all guests 6. Cancel one seat reservation 7. Exit program Enter your choice: 7

Part 2 : BTS_Fee

Filename: bts_fee.py
Text files:_bts_station_list.txt

Write a program to compute BTS ticket fee between N24-E9 stations.

BTS information

BTS is an elevated metro rail in Bangkok. One of BTS line is called Sukhumvit line. The station codes on this line are between N24 (Khu Khot) and E23 (Kheha). The center station is coded as CEN (Siam).

When BTS was first operated, Sukhumvit line ran between N8-E9 stations. These stations are called "base stations" in this problem. Currently, Sukhumvit line is extended and runs between N24-E23 stations.

To simplify the calculation in this problem, partial Sukhumvit line is used between N24-E9 stations. Stations between N24-N9 are called "extension stations" in this problem.

To compute BTS ticket fee between stations inside base stations and inside extension stations are different.

- Fee between stations inside base stations is computed based on the following table:

Number of stations	0-1	2	3	4	5	6	7	8 or more
Fee	16	23	26	30	33	37	40	44

Thus, fee between N8-N1 = 40 Baht. Fee between N2-E3 = 33 Baht (There are 5 stations between N2-E3: (N2-N1), (N1-CEN), (CEN-E1), (E1-E2), (E2-E3))

- Fee between stations inside extension stations is computed based on default fee (15 Baht) and number of stations. Each station costs 3 Baht. Here are examples:

  Fee between N17-N9 = 15 + 3x8 = 39 Baht. Fee between N13-N9 = 15 +3x4 = 37 Baht.

- For the case, a passenger travels between base stations and extension stations, the fee will be summation of fee from both zones and subtract the default fee (15 Baht). BTS charges default fee only once. Here are examples:

Fee between N17-N7 = (Fee between N17-N9) + (Fee between N8-N7) = (15 + 3x8) + 16 – 15 = 40 Baht.

Fee between N13-E2 = (Fee between N13-N9) + (Fee between N8-E2) = (15 + 3x4) + 44 – 15 = 66 Baht.

Problem Information

For this problem, *bts_fee.py* is partially written, along with doctest cases.

Text file *bts_station_list.txt* is also given. Inside the program, function *read_file()* is given to help you read station code and its station name from this text file.

Output of read_file() or **table**. Notice that the returned table is nested list of strings.
`[['N24', 'Khu Khot'], ['N23', 'Yaek Kor Por Aor'], ['N22', 'Royal Thai Air Force Museum'], … , ['E7', 'Ekkamai'], ['E8', 'Phra Khanong'], ['E9', 'On Nut']]`

Function *create_station_names()* is supposed to construct a dictionary where key is station code and value is station name. Here is what function *create_station_names()* will return:

```
{'N24': 'Khu Khot', 'N23': 'Yaek Kor Por Aor', 'N22': 'Royal Thai Air Force Museum', …, 'E7': 'Ekkamai', 'E8': 'Phra Khanong', 'E9': 'On Nut'}
```

Inside the program, list of base stations and extension stations are also created and given.

List of base stations
['N8', 'N7', 'N6', 'N5', 'N4', 'N3', 'N2', 'N1', 'CEN', 'E1', 'E2', 'E3', 'E4', 'E5', 'E6', 'E7', 'E8', 'E9']
List of extension stations
['N24', 'N23', 'N22', 'N21', 'N20', 'N19', 'N18', 'N17', 'N16', 'N15', 'N14', 'N13', 'N12', 'N11', 'N10', 'N9']

To run this program, it will first reads origin and destination station codes. Both stations must be one from N24-E9 stations.

To compute fee between stations inside base stations, first, we are going to build a look-up grid table as shown below. Numbers inside this table represent number of stations between any specific two base stations. For examples: Number of stations between N8-N6 is 2. Number of stations between N8-E9 is 17.

	N8	N7	N6	…	E8	E9
N8	0	1	2	…	16	17
N7	1	0	1	…	15	16
N6	2	1	0	…	14	15
…						

E8	16	15	14	…	0	1
E9	17	16	15	…	1	0

Inside this program, this look-up grid table is called 'num_station_grid' and it is nested dictionary. Here are what num_station_grid looks like. *(Note that the printing formatted below is rearranged, so it is easily-read.)*

```
{'N8': {'N8': 0, 'N7': 1, 'N6': 2, 'N5': 3, 'N4': 4, 'N3': 5, 'N2': 6, 'N1': 7, 'CEN': 8,
'E1': 9, 'E2': 10, 'E3': 11, 'E4': 12, 'E5': 13, 'E6': 14, 'E7': 15, 'E8': 16, 'E9': 17},

'N7': {'N8': 1, 'N7': 0, 'N6': 1, 'N5': 2, 'N4': 3, 'N3': 4, 'N2': 5, 'N1': 6, 'CEN': 7,
'E1': 8, 'E2': 9, 'E3': 10, 'E4': 11, 'E5': 12, 'E6': 13, 'E7': 14, 'E8': 15, 'E9': 16},

'N6': {'N8': 2, 'N7': 1, 'N6': 0, 'N5': 1, 'N4': 2, 'N3': 3, 'N2': 4, 'N1': 5, 'CEN': 6,
'E1': 7, 'E2': 8, 'E3': 9, 'E4': 10, 'E5': 11, 'E6': 12, 'E7': 13, 'E8': 14, 'E9': 15},

…,

'E8': {'N8': 16, 'N7': 15, 'N6': 14, 'N5': 13, 'N4': 12, 'N3': 11, 'N2': 10, 'N1':
 9, 'CEN': 8, 'E1': 7, 'E2': 6, 'E3': 5, 'E4': 4, 'E5': 3, 'E6': 2, 'E7': 1, 'E8': 0,
'E9': 1},

'E9': {'N8': 17, 'N7': 16, 'N6': 15, 'N5': 14, 'N4': 13, 'N3': 12, 'N2': 11, 'N1': 10,
'CEN': 9, 'E1': 8, 'E2': 7, 'E3': 6, 'E4': 5, 'E5': 4, 'E6': 3, 'E7': 2, 'E8': 1, 'E9':
0}}
```

From this nested dictionary, it can be found that num_station_grid['N8']['N6'] = 2 or num_station_grid['N8']['E9'] = 17. This is equivalent to number of stations between N8-N6 is 2 or number of stations between N8-E9 is 17.

Functions *get_num_station_grid()* and *count_num_stations()* will be used to create this nested dictionary, num_station_grid. After number of stations between any two base stations is found, we can use it to compute fee.

Functions *get_base_fee(), get_extension_fee(), compute_fee()* are used to compute fee from base stations only, extension stations, and total fee respectively.

After the program computes and reports BTS ticket fee for each origin and destination pair, the program will ask user whether he wants to continue computing BTS fee for next origin and destination pair or not. If the user does not want to continue, he will enter 'N'.

At the end, the program reports how many tickets are sold, and amount of money collected from these sold BTS tickets.

Here are some sample outputs.

Sample Output 1

```
Ticket1:
Enter origin station (N24-E9): N25
Station N25 does not exist. Enter a station between N24-E9.
Enter origin station (N24-E9): N8
Enter destination station (N24-E9): N25
```

```
Station N25 does not exist. Enter a station between N24-E9.
Enter destination station (N24-E9): N2
Base Station Zone: Fee = 37 Baht
Origin = N8 = Mo Chit, Destination = N2 = Phaya Thai: Fee = 37

Do you want to continue (Y/N)? Y

Ticket2:
Enter origin station (N24-E9): N24
Enter destination station (N24-E9): N14
Extension Station Zone: Fee = 45 Baht
Origin = N24 = Khu Khot, Destination = N14 = Royal Forest Department: Fee = 45

Do you want to continue (Y/N)? Y

Ticket3:
Enter origin station (N24-E9): N14
Enter destination station (N24-E9): N1
Extension Station Zone: Fee = 30 Baht
Base Station Zone: Fee = 40 Baht
Origin = N14 = Royal Forest Department, Destination = N1 = Ratchathewi: Fee = 55

Do you want to continue (Y/N)? Y

Ticket4:
Enter origin station (N24-E9): E8
Enter destination station (N24-E9): E2
Base Station Zone: Fee = 37 Baht
Origin = E8 = Phra Khanong, Destination = E2 = Phloen Chit: Fee = 37

Do you want to continue (Y/N)? Y

Ticket5:
Enter origin station (N24-E9): E2
Enter destination station (N24-E9): N10
Base Station Zone: Fee = 44 Baht
Extension Station Zone: Fee = 18 Baht
Origin = E2 = Phloen Chit, Destination = N10 = Phahon Yothin 24: Fee = 47

Do you want to continue (Y/N)? Y

Ticket6:
Enter origin station (N24-E9): E9
Enter destination station (N24-E9): N24
Base Station Zone: Fee = 44 Baht
Extension Station Zone: Fee = 60 Baht
Origin = E9 = On Nut, Destination = N24 = Khu Khot: Fee = 89

Do you want to continue (Y/N)? N

6 tickets are sold.
310 Baht is collected.
```

Sample Output 2

```
Ticket1:
Enter origin station (N24-E9): N9
```

```
Enter destination station (N24-E9): N9
Extension Station Zone: Fee = 15 Baht
Origin = N9 = Ha Yaek Lat Phrao, Destination = N9 = Ha Yaek Lat Phrao: Fee = 15

Do you want to continue (Y/N)? Y

Ticket2:
Enter origin station (N24-E9): N8
Enter destination station (N24-E9): CEN
Base Station Zone: Fee = 44 Baht
Origin = N8 = Mo Chit, Destination = CEN = Siam: Fee = 44

Do you want to continue (Y/N)? Y

Ticket3:
Enter origin station (N24-E9): CEN
Enter destination station (N24-E9): E9
Base Station Zone: Fee = 44 Baht
Origin = CEN = Siam, Destination = E9 = On Nut: Fee = 44

Do you want to continue (Y/N)? Y

Ticket4:
Enter origin station (N24-E9): CEN
Enter destination station (N24-E9): N24
Base Station Zone: Fee = 44 Baht
Extension Station Zone: Fee = 60 Baht
Origin = CEN = Siam, Destination = N24 = Khu Khot: Fee = 89

Do you want to continue (Y/N)? Y

Ticket5:
Enter origin station (N24-E9): CEN
Enter destination station (N24-E9): CEN
Base Station Zone: Fee = 16 Baht
Origin = CEN = Siam, Destination = CEN = Siam: Fee = 16

Do you want to continue (Y/N)? N
```