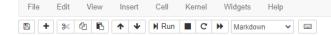


Python 3 O



Practice Notebook: Reading and Writing Files

In this exercise, we will test your knowledge of reading and writing files by playing around with some text files.

Let's say we have a text file containing current visitors at a hotel. We'll call it, guests.txt. Run the following code to create the file. The file will automatically populate with each initial quest's first name on its own line.

```
In [1]: N guests = open("guests.txt", "w")
initial_guests = ["Bob", "Andrea", "Manuel", "Polly", "Khalid"]
               for i in initial_guests:
                    guests.write(i + "\n")
               guests.close()
```

No output is generated for the above code cell. To check the contents of the newly created guests.txt file, run the following code.

```
print(line.strip())
      Bob
      Andrea
      Manuel
      Polly
      Khalid
```

The output shows that our guests.txt file is correctly populated with each initial guest's first name on its own line. Cool!

Now suppose we want to update our file as guests check in and out. Fill in the missing code in the following cell to add guests to the guests.txt file as they

```
with open("guests.txt", "a") as guests:
          for i in new_guests:
             guests.write(i + "\n")
       guests.close()
```

To check whether your code correctly added the new guests to the guests.txt file, run the following cell.

```
In [4]: | with open("guests.txt") as guests:
    for line in guests:
                        print(line.strip())
               Bob
               Andrea
               Manuel
               Pollv
               Khalid
               Danielle
               Jacob
```

The current names in the guests.txt file should be: Bob, Andrea, Manuel, Polly, Khalid, Sam, Danielle and Jacob.

Was the guests.txt file correctly appended with the new guests? If not, go back and edit your code making sure to fill in the gaps appropriately so that the new guests are correctly added to the guests txt file. Once the new guests are successfully added, you have filled in the missing code correctly. Great!

Now let's remove the guests that have checked out already. There are several ways to do this, however, the method we will choose for this exercise is outlined

- 1. Open the file in "read" mode.
- 2. Iterate over each line in the file and put each guest's name into a Python list
- 3. Open the file once again in "write" mode.
- 4. Add each quest's name in the Python list to the file one by one.

Ready? Fill in the missing code in the following cell to remove the guests that have checked out already.

```
In [5]: M checked_out=["Andrea", "Manuel", "Khalid"]
             temp list=[]
             with open("guests.txt", "r") as guests:
                 for g in guests:
    temp_list.append(g.strip())
             with open("guests.txt", "w") as guests:
                 for name in temp_list:
                    if name not in checked_out:
```

```
guests.write(name + "\n")
```

To check whether your code correctly removed the checked out guests from the guests.txt file, run the following cell.

The current names in the guests.txt file should be: Bob, Polly, Sam, Danielle and Jacob.

Were the names of the checked out guests correctly removed from the *guests.txt* file? If not, go back and edit your code making sure to fill in the gaps appropriately so that the checked out guests are correctly removed from the *guests.txt* file. Once the checked out guests are successfully removed, you have filled in the missing code correctly. Awesome!

Now let's check whether Bob and Andrea are still checked in. How could we do this? We'll just read through each line in the file to see if their name is in there. Run the following code to check whether Bob and Andrea are still checked in.

We can see that Bob is checked in while Andrea is not. Nice work! You've learned the basics of reading and writing files in Python!