

Study Manager: Line-by-Line Explanation

Python Code	Explanation (What is happening?)
<pre>from datetime import datetime</pre>	We are grabbing a special clock tool from the big Python toolbox, even though we aren't using it yet!
<pre>study = {}</pre>	This is our empty backpack. We will put subject names and times inside it later.
<pre>day_count = 0</pre>	This is a scoreboard that starts at zero. It counts how many times we check our progress.
<pre>def add_Data(name, time):</pre>	This is a recipe (function) called 'add_Data'. It needs a 'name' and 'time' to work.
<pre> if name in study:</pre>	We look inside the backpack. Is this subject name already in there?
<pre> # If subject exists...</pre>	Note: We are handling the case where we already have the subject.
<pre> study[name] += time</pre>	If it is there, we take the old time and add the new time to it.
<pre> print(f"Subject '{name}' already exists!")</pre>	We tell the user: "Hey, we found this subject!"
<pre> print(f"Added {time} minutes...")</pre>	We tell them we added more minutes to the pile.
<pre> print(f"New total time for '{name}'...")</pre>	We show them the big new total number.
<pre> else:</pre>	But, if the subject was NOT in the backpack...
<pre> # If subject doesn't exist...</pre>	Note: This is a brand new subject.
<pre> study[name] = time</pre>	We put the new subject and its time into the backpack for the first time.
<pre> print(f"Subject name '{name}'...")</pre>	We cheer because we added a new thing!

```
def update_Data(name, time):  
    if name in study:  
        study[name] = time  
        print(f"Updated! Subject '{name}'...")  
  
    else:  
        print(f"This Subject Name '{name}' is Not Found!")  
  
def delete_Data(name):  
    if name in study:  
        del study[name]  
        print(f"Subject name '{name}' is Deleted")  
  
    else:  
        print(f"This Subject Name '{name}' is Not Found!")  
  
def view_data():  
    if study:  
        print("\n--- Current Study List ---")  
        for name, time in study.items():  
            print(f"{name}: {time} minutes")
```

Here is a new recipe called 'update_Data'. It changes things.

First, we check if the subject is actually in our backpack.

We erase the old time and write down the brand new time.

We tell the user the change is done.

If we couldn't find that subject in the backpack...

We say: "Sorry, I don't know that subject!"

This recipe is for throwing things away.

We check if the subject is in the backpack first.

We take the subject out of the backpack and toss it in the trash!

We confirm it is gone forever.

If it wasn't there to begin with...

We say: "I can't delete what isn't there!"

This recipe lets us look at everything we have.

We check if the backpack has anything inside it.

We print a fancy title for our list.

We pull out every single item (name and time) from the backpack, one by one.

We print the name and the time on the screen.

```
else:                                     If the backpack is completely empty...

    print("No Study Plan Found")           We tell the user there is nothing to see here.

def show_statistics():                   This is a big recipe to do some math for us.

    global day_count                     We are shouting to get the 'day_count' scoreboard from
                                         outside this room so we can change it.

    if study:                           We only do math if there is data in the backpack.

        day_count += 1                  We add 1 to our scoreboard because we are checking
                                         stats again.

        total = 0                      We start a counter at zero to add up all the minutes.

        for time in study.values():    We look at only the 'time' numbers in our backpack.

            total += time             We add each time to our total pile.

        sub_count = len(study)         We count how many different subjects are in the
                                         backpack.

        average = total // sub_count... We share the total time equally among subjects. The '//' means no decimals allowed!

    print(f"\n📊 Study Day Count : {day_count}")   We show the scoreboard number.

    print(f"Total Subjects: {sub_count}")          We show how many subjects we have.

    print(f"Total Study Time: {total} minutes")     We show the total time for everything.

    print(f"Average Study Time per Subject...")      We show the average time.

    if average <= 80:                          We check: Is the average time small (less than or equal to 80)?

        print("\n You Need To Study More")       If it is small, we give a gentle nudge to work harder.
```

else:	If the number is big...
print("Keep Going")	We give a high-five!
else:	If the backpack was empty...
print("No Data")	We say there is nothing to calculate.
def main():	This is the Main Control Room where the program starts.
while True:	This is a 'forever loop'. It keeps spinning around and around until we tell it to stop.
print("\n==== Study Management System ====")	We print the big welcome sign.
print("1. ADD")	Option 1 is to add.
print("2. Update")	Option 2 is to change.
print("3. Delete")	Option 3 is to remove.
print("4. View")	Option 4 is to look.
print("5. Show Statistics")	Option 5 is for math.
print("6. Exit")	Option 6 is to leave.
choice = int(input('Enter Your choice...'))	We ask the human to type a number, and we turn it into a real number (integer).
if choice == 1:	If the human picked door number 1...
name = input("Enter Subject Name:")	We ask: "What is the subject name?"
time = int(input("Enter Study Time..."))	We ask: "How many minutes?" and make sure it's a number.
add_Data(name, time)	We run the 'add_Data' recipe we wrote earlier.
elif choice == 2:	If the human picked door number 2...

```
name = input("Enter Subject  
Name...")
```

We ask which subject to fix.

```
time = int(input("Enter New Study  
Time..."))
```

We ask for the new number.

```
update_Data(name, time)
```

We run the 'update_Data' recipe.

```
elif choice == 3:
```

If the human picked door number 3...

```
name = input("Enter Subject  
Name...")
```

We ask which subject to throw away.

```
delete_Data(name)
```

We run the 'delete_Data' recipe.

```
elif choice == 4:
```

If the human picked door number 4...

```
view_data()
```

We run the 'view_data' recipe to show the list.

```
elif choice == 5:
```

If the human picked door number 5...

```
show_statistics()
```

We run the 'show_statistics' recipe to do the math.

```
elif choice == 6:
```

If the human picked door number 6...

```
print('Closing the Program\n')
```

We say goodbye!

```
break
```

This is the emergency brake! It stops the 'forever loop'
and ends the program.

```
else:
```

If the human typed a weird number like 99...

```
print("Invalid Choice")
```

We say: "That wasn't one of the options!"