

**GROUP ASSIGNMENT**

**TECHNOLOGY PARK MALAYSIA**

**CT108-3-1-PYP**

**PYTHON PROGRAMMING**

**APU1F2309CS(CYB)**

**Group Name: PythonIsHard-CYS-G2**

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# 1.0 Introduction and Assumptions

This is a documentation for the Parcel Delivery Service program, which is made by group PythonIsHard-CYS-G2 using Python programming language. The purpose of this documentation is to provide users a better understanding of the features available and how this program works.

This program is mean to be used by two types of users: Administrator and Operator, with certain features available to only the administrator or vice versa. Some of the key functionalities of this program includes user registration and login, recording customer details, generating consignment with bills of several parcels, price checking and modification.

Before running this program, there are several assumptions and prerequisites to be taken note of. Firstly, certain applications such as Jupyter Lab, Spyder Lab, or PyCharm is required to run this Python-based program. Besides that, this program requires external files to read or store data, which will occupy additional storage space in the user’s device. Furthermore, to run this program, user must use a keyboard with keys for alphabet letters and numbers as this program only accepts input of alphabets and numbers.

# 2.0 Design of the Program

Pseudocode:

START

Ask user to register or login

IF user register

INPUT username, full name, email, password, user type, gender

Save user details into list of users

OUTPUT “User registered successfully.”

ELIF user login

INPUT username, password

IF username and password match AND user type is “Administrator”

Display user management menu

IF Administrator choose 1 “Add User”

INPUT username, full name, email, password, user type, gender

Save user details into list of users

ELIF Administrator choose 2 “Remove user”

INPUT username

Deletes user details from list of users

ELIF Administrator choose 3 “Edit user”

INPUT username

Modify password, name, Gmail and gender

Save changes into list of users

ELIF Administrator choose 4 “Find user”

INPUT username

OUTPUT user data

ELIF Administrator choose 5 “View user”

OUTPUT all user data

ELIF Administrator choose 6 “Parcel Price Management”

Display Parcel Price Management Menu

IF Administrator view parcel price list

OUTPUT list of parcel prices

ELIF Administrator add or modify parcel price

INPUT weight, price, and zone

Update list of parcel price

OUTPUT updated list of parcel prices

ELIF Administrator check parcel price

INPUT weight and zone

Fetch parcel price from list

OUTPUT parcel price

ELIF Administrator delete parcel price

INPUT weight and zone

Delete price

OUTPUT updated list of parcel price

ELIF Administrator exits

OUTPUT “Back to user management.”

Redirect to user management

ELSE

OUPUT “Invalid input.”

ELIF Administrator choose 7 “Exit Management”

OUTPUT "Exiting the program."

ELSE

OUTPUT “Invalid choice. Please enter a number between 1 and 6.”

ELIF username and password match AND user type is “Operator”

Display operator menu

IF Operator add customer details

INPUT name, address, telephone number

Save customer details into list of customer

ELIF Operator modify customer address and telephone number

INPUT customer ID, address, telephone number

Save changes and overwrite list of customer

ELIF Operator view customer list

OUTPUT customer list

ELIF Operator clear customer list

Reset customer list

ELIF Operator check parcel price

INPUT weight, zone

Fetch price from list of parcel price

OUTPUT price

ELIF Operator generate parcel list

INPUT date, zone

Fetch parcel matched with requirements

OUTPUT all parcels

ELIF Operator create consignment

INPUT customer id

Creates consignment bill with required data

OUTPUT detailed bill

ELIF Operator search consignment id to modify

INPUT Consignment ID, parcel number

Calls out function update parcel details

Calls out update sender details, update receiver details

OUTPUT updated consignment bill

ELIF Operator search consignment id to check

INPUT consignment ID

OUTPUT detailed bill

ELIF Operator view customer bill and total amount

INPUT customer ID

OUTPUT Consignment bill under customer ID

ELIF Operator view customer bill by date

INPUT customer ID

OUTPUT Consignment bill under input date

ELIF Operator clear consignment file

Resets consignment JSON file

ELIF Operator exits

OUTPUT “Exiting the program. Goodbye!”

ELSE

OUTPUT “Invalid choice. Please enter a valid option (0 – 12).”

ELSE

OUTPUT “Incorrect username or password. Please try again.”

ELSE

OUTPUT “Invalid choice. Please enter ‘1’ or ‘2’.”

END

# 3.0 Program Source Code and Explanations

Kindly refer to the comments in the .py file

# 4.0 Sample Input/ Output and Explanations

|  |  |
| --- | --- |
| Input/ Output | Explanations |
|  | For the beginning of the program, the system will ask user whether they want to register (1) or login (2). |
|  | The system would ask for a new response if the input received is invalid. |
|  | If user input 1 (register user), system will ask user to input their username, full name, gmail, password, user\_type (administrator/operator), gender (girl/boy).  After registering, the system will ask the user again, user need to choose 2 for login. If user still need to register, choose 1. |
|  | After logging in as an administrator, user will be taken to admin’s user interface. |
|  | Admin is required to choose 1-7. If user choose other options other than 1-7, system will ask admin to choose 1-7 again. |
|  | For admin that chooses 1 (Add user), they can add user and system will save user data into “store.jason” . User can open “store” file on their device to view the user data that has been saved. |
|  | If admin presses 2 (remove user), admin need to key in the username that wants to be deleted (in this case, yuan), system will show “yuan” has been successfully removed. Since “yuan” has been removed, it won’t be able to be deleted again, system will show “yuan” not found.  User “yuan” is erased from “store.json” |
|  | If admin chooses 3 (edit user), admin need to key in username to edit. After that, admin can edit user password, name, Gmail, gender and also finish editing.  User data that is edited by admin will be saved on “store”. After admin finish editing, system will call management option.  Details for user “yuan kee” has been updated. |
|  | If admin press 4 (find user), admin need to enter the username they want to find.  System will show the user data. |
|  | If admin presses 5 (view user), system will show all the user data in the “store”. |
|  | After admin presses 6, the Parcel Price Management will appear, offering a selection of actions for them to choose from. |
|  | If admin presses 7(exit management), the system will show “Exiting the program.” |
|  | When admin enters 1, a list showcasing parcel prices will appear for admins to review pricing details. |
|  | When admin enters 2, the program asks for certain details from admin in order to add or modify the prices.  When admin input is invalid, the program prompts admin and outputs “Invalid input. Please try again.” until input keyed in from admin is valid.  Once admin has filled in all the details, data will be saved into the JSON file immediately. |
|  | When admin enters 3, the program asks for specific details such as weight and zone from the admin to check on the precise information they are looking for.  When wrong inputs from admin have been detected, it will output “Invalid input. Please try again.” until admin enters correctly according to the details needed.  Price will be shown to admins after they have entered the weight and zone for the price they want to check on. |
|  | When admin enters 4, the program asks for certain details from admin to delete the desired price. After entering valid inputs, the program will then output “Price for 9KG in Zone C deleted.” as shown in the picture for example, deletes the price and will then be saved to data.  If unknown inputs are detected, the program will then print “Invalid input. Please try again.” until a valid input from admin is entered. |
|  | After each action is completed by admin, it will automatically go back to the main menu action for the admin to choose from. When admin enters 5, the program will end. All data saved will appear when the code is run again. |
|  | When user logged in as an operator, a menu for all the available actions for operator will pop up. |
|  | When operator enters 1 (Add customer details), the program will ask for details for the operator to answer accordingly.  When invalid input is detected, it will remind the operator and restart the process.  Once everything is filled up, the system will save the data. |
|  | After each action, the system will ask if the user wants to perform another action. If yes, the menu will be shown once again. |
|  | When action 2 (Modify customer address/ telephone number) is chosen, the operator can input the desired customer ID to modify their address and telephone number.  The updated customer details will be saved into the JSON file. |
|  | When the operator chooses 3 (View customer list), the program will fetch all the data from customer\_data.json and display it. |
|  | When the operator types 4 (Clear customer list), all of the data inside the file will be erased. |
|  | When the operator types 7(Create a new consignment), the program will require the operator to enter a valid customer id, only a valid customer id will continue the program. After that, the operator has to check if the displayed data is correct and only that it can move on. The next step will move on to create the bill, the operator must then fill in the sender details, receiver details, the item weight and also the Zone that the parcel is needed to be delivered. After that the price to deliver the item and also the parcel number will be shown. Operators will have the choice to add another item or move on. A fully detailed Consignment bill will be displayed, and it will be saved to the database. At each of the functions in the menu, the operator can choose to continue with another function in the menu or end the program. |
|  | When the operator types 8(search for consignment to modify), the operator will be required to input a Consignment ID. If the input consignment number exists in the database, it will show the fully detailed bill and the operator can choose “yes” to confirm and move on and if it is not the operator can input “no” to go back to the main menu. After that, the operator is to enter a parcel which is in the current consignment bill to perform modifying to the parcel. If the parcel number inserted does not exist in the consignment bill, it will show it does not exist and ask if the operator wants to start another function and restart again.  If the parcel number exists in the consignment bill, a full detail bill will display, the operator is then greeted with 6 options.  Option 1: To change the weight of the item that is to be delivered.  Option 2: To change the destination of the item that is to be delivered.  Option 3: To change the details of the sender of that parcel. In this menu, option 1 is to change the name of the sender, option 2 is to change the address of the sender and option 3 is to change the phone number of the sender whereas option 4 is to return to the previous menu.  Option 4: To change the details of the receiver of that parcel. In this menu, option 1 is to change the name of the receiver, option 2 is to change the address of the receiver and option 3 is to change the phone number of the receiver whereas option 4 is to return to the previous menu.  Option 5: To delete the parcel  Option 6: To return to the main menu. |
|  | When the operator types 9(search for consignment to check), this is similar to the previous one, but this is used to check and look at the bill only. |
|  | When the operator types 10(View customer bills and total amount), the operator will be required to fill in a valid customer ID and after that, it will show every bill which is under the customer ID. |
|  | When the operator types in 11(View customer bills by date), the operator will be greeted 3 menus. Option 1 is to view every bill of the specific date and option 2 is to view every bill within a date range whereas option 3 is to return to the main menu.  After choosing and enter the dates it will show bills accorded to the dates. |
|  | When the operator types 12(clear consignment data file), the operator will clear the whole consignment data file and will be reset. This may be used when there are issues with the file. |
|  | When the operator types 0(Exit), it exits the operator program. |

# 5.0 Conclusion

In a nutshell, this parcel delivery system built using Python programming language is a complex program featuring multiple functions including logging in, registering user and customer, creating consignment, bill, and parcel, manipulating user list, customer list, price list and consignment list, as well as price calculations. These functions are made available using different techniques such as file handling, list manipulation, and control structures implementation. Overall, this program proves that Python can be used to create a fully functional system to improve the efficiency of work. We hope that this program can serve as an inspiration for any beginner in Python programming language to create their own creative works.

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