CS307 Project2

Members

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Basic	function 2~5 funtion 13 one step export	function 1 function 6~12 one step input
enhance APIs	8 new APIs	
better query		basic functions accept no parameter
front-end		using flask in python with http protocol
GUI		show all functions on website page
pool		apply connection pool
privilege	different for top, salesman, manager	
score	50%	50%
hardware		
python	3.10	3.6.3

Python packet used:

packet name	version
Flask-Bootstrap	3.3.7.1
Flask-WTF	1.0.1
Flask	2.1.2
psycopg2	2.9.3

packet name	version
WTForms	3.0.1

Basic API

importFour()

Import four information files in one function

stockIn()

Support action of increasing the product inventory according to .csv file

placeOrder()

Place an order which sells specific products to an enterprise according to .csv file

updateOrder()

Update orders in a series of limitations according to .csv file.

deleteOrder()

Delete orders following a series of limitations according to .csv file. No contract delete if order do not exist.

getAllStaffCount()

Return the numbers of people for all types of staffs.

getContractCount()

Return the total number of existing contract.

getOrderCount()

Return the total number of existing orders.

getNeverSoldProductCount()

Return the number of models that are in stock but have never been ordered.

getFavoriteProductModel()

Find the models with the highest sold quantity, and the number of sales.

getAvgStockByCenter()

Calculate the average quantity of the remaining product models for each supply center.

getProductByNumber(model_number: str)

- model_number: a number of specific model

According to input model number, Return the current inventory capacity of each product model in each supply center.

getContractInfo(contract_number: str)

- contract_number: a specific number of a contract.

Return specific contract information in requirements of a specified contract.

oneStepExport(product_number_list: list[str], contract_number_list: list[str])

- product_number_list: list of input parameters in `getProductByNumber`.
- contract_number_list: list of input parameters in `getContractInfo`.

Export required information into local file.

Advanced APIs

getBestSalesman(type: str)

- type: can be one of three strings: 'amount', 'model', and 'order'.
- if type == 'amount':
  Return the id and name of salesman selling out most money.
  if type == 'model:
  Return the id and name of salesman selling out most model number.
  else: (type == 'order' or something else)
  Return the id and name of salesman selling out most order number.
- Set one more prize in year-end bonus.

getBestProfitProductModel()

- Consider if all models are sold out, return the model name, profit, and remain storage product number. If there are paralleling models, show them all.
- Offer advice on selling strategy: try to sell all output model out.

getOrderBetweenDates(date1: str, date2: str, enterprise: str, contract_num: str)

- date1: in format "year-month-day"
  date2: in format "year-month-day"

enterprise: the name of client enterprise. Can be empty, regard wrong input as empty.

contract_num: the number of specific contract. Can be empty, regard wrong input as empty.

- Return all orders (in this client enterprise) (in this contract) between two input days.
- To prevent client blackmail company, and offer a query function for employees.

getMostModelEnterpriseRecent()

- Return the first ten enterprise name making deals with company most frequent.
- Every year to find an excuse to send small gifts to enhance the relationship, stimulate customers to spend more money.

getLossProductModel()

- Return all negative profit model in all already sold-out models, and the model having not been ordered in one year after stock in.
- These model do not have sales market, consider stock in less or none of them in future.

getOrderEachMonth(center: str)

- center: Can be empty, regard wrong input as empty.
- Return the number of orders in every months (in a specific supply center). An order is consider to be done if and only if its contract type is "Finished".
- Top handlers in company can adjust human resource to each supply center, move some employees from less-ordered-center to more-ordered-center.

getProfitBetweenDates(date1: str, date2: str)

- date1: in format "year-month-day"

  date2: in format "year-month-day"
- Return cure profit between two days of whole company.
- To query bills and profit.

setNowDate(date: str)

- date: in format "year-month-day"
- Set present date into specific date. All contract finished after this day will be set "contract_type" into "Unfinished". All contract finished on or before this day will be set "contract type" into "Finished".
- To simulate natural time flow in reality.

Other advanced points

User privilege

Three privileges are designed.

- Salesman: Start with character 's' followed by salesman's number. Like 's12010001'. Can only query orders belonging to him/her.
- Contract manager: Start with character 'c' followed by manager's number. Like 'c12010001'. Can only query orders belonging to his/her contract, and contracts belonging to him/her.
- Top user: Start with character 't' followed by a serial number. Like 't123123'. Designed for senior executive in company, have all privileges.

Respective APIs are as follows:

addSalesmanUser(salesman_num: str)

- salesman_num: a staff number of one salesman.
- Add a user for this salesman, the name of user is created by adding character 's' before this number. If this salesman is already has privilege, do nothing.

addManagerUser(manager_num: str)

- manager_num: a staff number of one contract manager.
- Add a user for this manager, the name of user is created by adding character 'c' before this number. If this manager is already has privilege, do nothing.

addTopUser(user_number: str)

- user_number: a serial number of one executive.
- Add a user for this executive, the name of user is created by adding character 't' before this number. If this executive is already has privilege, do nothing.

changeUser(user_name)

- user_name: a user's name
- Change privilege into input user. If this user name do not exist, then do nothing. This function is used to simulate human resource management system in company.

Back-end server

展示http协议通信

Connection pool

GUI

GUI设计