

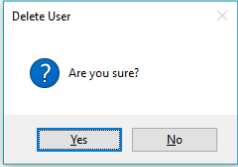
BCU University

CMP4266 Python Assessment

Testing a python bank system

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Number	Test	Input	Expected	Actual
1	Test main menu by typing an option that it doesn't exist. The same verification is used on all the menus.	<pre> ~~~~~ Welcome to the Python Bank System ~~~~~ 1) Admin login 2) Customer login 3) Quit Python Bank System Choose your option: 4 </pre>	Display an error message, then return to the menu.	<pre> Option not valid ~~~~~ Welcome to the Python Bank System ~~~~~ 1) Admin login 2) Customer login 3) Quit Python Bank System Choose your option: </pre>
2	Test customer login with a user that is not in the system	<pre> ~~~~~ Welcome to the Python Bank System ~~~~~ 1) Admin login 2) Customer login 3) Quit Python Bank System Choose your option: 2 Please input customer name: Sam Please input customer password: password </pre>	Get a message to say that the user isn't found, then return to login menu	<pre> The customer Sam does not exist! Try again... The customer has not been found! </pre>
3	Test the account login with an account that doesn't exist on the accounts list.	<pre> Welcome Adam : Your transaction options are: ~~~~~ 1) Account operations 2) Profile settings 3) Sign out Choose your option: 1 Please input name of account: AdamCurrent </pre>	Give an error message, then go back to the menu	<pre> The account AdamCurrent does not exist! Try again... Account could not be found </pre>

4	Test deleting customer	<p>Please input admin name: Julian</p> <p>Please input admin password: 1441</p> <p>Welcome Admin Julian : Available options are:</p> <pre> 1) Customer account operations 2) Customer profile settings 3) Admin profile settings 4) Delete customer 5) Print all customers detail 6) Print all admins detail 7) Overdue loan charge 8) Interest 9) Sign out </pre> <p>Choose your option: 4</p> <p>Please input customer name you want to delete : Adam</p>  <p>The dialog box is titled 'Delete User' and contains a question mark icon followed by the text 'Are you sure?'. At the bottom, there are two buttons: 'Yes' and 'No'.</p>	<p>Message to confirm admins choice. Followed by GUI closing, and a statement printed about the user being removed.</p>	<p>Adam has been removed from the bank system. All changes are saved when you quit the bank system.</p>
5	Make sure no strings can be entered as they cannot be added to the floats in balance	<p>Your Transaction Options Are:</p> <pre> ~~~~~ 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back </pre> <p>Choose your option: 1</p> <p>Enter amount to be deposited: five</p>	<p>Message to explain that the option isn't valid.</p>	<p>Enter amount to be deposited: five Option not valid. Try again.</p>
6	Incorrect pin for withdrawing money	<p>Your Transaction Options Are:</p> <pre> ~~~~~ 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back </pre> <p>Choose your option: 2</p> <p>Enter amount to be withdrawn: 5</p> <p>Enter pin: 1345256</p>	<p>Error message to explain that either the pin was incorrect, or the bank account doesn't have enough funds</p>	<p>Enter pin: 1345256 Invalid pin number or insufficient funds</p>

7	Transfer money done with a user from the bank system, one of their accounts typed correctly and the right pin number for the account that is logged in	<p>Your Transaction Options Are:</p> <p>~~~~~</p> <ol style="list-style-type: none"> 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back <p>Choose your option: 4</p> <p>Enter name of person to transfer to: David</p> <p>Enter amount to be transfered: 50</p> <p>Account name you want to send to: DavidSavings</p> <p>Enter card pin: 1234</p>	Money should be transferred	<p>Enter card pin: 1234</p> <p>£ 50.00 withdrawn</p> <p>£ 50.00 deposited</p> <p>You have transfered 50.00</p>
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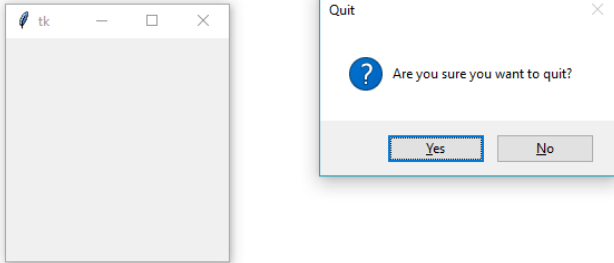
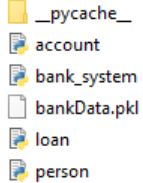
8	Test loans by inputted correct data	<p>Your Transaction Options Are: ~~~~~</p> <ol style="list-style-type: none"> 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back <p>Choose your option: 5</p> <p>Enter amount to be loaned: 50 Sorry, your loan request has been refused</p> <p>Your Transaction Options Are: ~~~~~</p> <ol style="list-style-type: none"> 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back <p>Choose your option: 5</p> <p>Enter amount to be loaned: 50</p> <p>Name of loan: AdamLoan</p>	<p>Most loans refused. Accepted loans need to be named to go into the loans list.</p>	<p>Enter amount to be loaned: 50</p> <p>Name of loan: AdamLoan £ 50.00 deposited</p>
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9	Searching for a loan that doesn't exist	<p>Your Transaction Options Are: ~~~~~</p> <ol style="list-style-type: none"> 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back <p>Choose your option: 6</p> <p>Name of loan: hello</p>	Error message explain that the loan doesn't exist on the loans list	<p>Name of loan: hello The loan hello does not exist! Try again...</p> <p>Loan could not be found</p>
10	Viewing a loan report	<p>Your loan options are: ~~~~~</p> <ol style="list-style-type: none"> 1) View loan report 2) Pay loan 3) Quit <p>Choose your option: 1</p>	State the amount remaining and the days left	<p>Choose your option: 1</p> <p>£50.00 remaining</p> <p>21 days remaining</p>
11	Test that only created loans can be used for the loan options page	<p>Your Transaction Options Are: ~~~~~</p> <ol style="list-style-type: none"> 1) Deposit money 2) Withdraw money 3) Check balance 4) Transfer money 5) Apply for loan 6) Loan Options 7) Back <p>Choose your option: 6</p> <p>Name of loan: hello</p>	Error message displaying that the loan doesn't exist in the loans list	<p>Name of loan: hello The loan hello does not exist! Try again...</p> <p>Loan could not be found</p>

12	Test repaying loan	<p>Your loan options are: ~~~~~</p> <p>1) View loan report 2) Pay loan 3) Quit</p> <p>Choose your option: 2</p> <p>Enter amount to be repaid: 50</p> <p>Enter card pin: 1234</p>	<p>Only lets the user pay off an amount less than or equal to the amount of the loan and needs the pin number entered to be correct. This should lower the amount left to repay the loan and withdraw the money from the users account</p>	<p>Enter amount to be repaid: 50</p> <p>Enter card pin: 1234</p> <p>£ 50.00 withdrawn</p>
13	View a paid off loan	<p>Your loan options are: ~~~~~</p> <p>1) View loan report 2) Pay loan 3) Quit</p> <p>Choose your option: 1</p>	<p>Message informing user that the loan has been repaid. Will not let the user pay anymore.</p>	<p>£0.00 remaining</p> <p>Loan repaid</p>

14	Changing name and address	<p>Your Profile Settings Options Are: ~~~~~</p> <p>1) Update name 2) Update address 3) Print details 4) Back</p> <p>Choose your option: 1</p> <p>Enter new name: Josh</p> <p>Your Profile Settings Options Are: ~~~~~</p> <p>1) Update name 2) Update address 3) Print details 4) Back</p> <p>Choose your option: 2</p> <p>Please enter new address: 12 Ambridge Grove Peartree Bridge Milton Keynes MK6 3PQ</p>	<p>Prompts user to enter the new name. Prompts user to enter an address line by line.</p> <p>View changed details by going to print details. These will be saved just before quitting the system so will become the new login name for that user.</p>	<p>Your Profile Settings Options Are: ~~~~~</p> <p>1) Update name 2) Update address 3) Print details 4) Back</p> <p>Choose your option: 3</p> <p>Name Josh: Address: 12 Ambridge Grove Peartree Bridge Milton Keynes MK6 3PQ</p>
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15	Attempting to apply overdue loan charge to the loans when none are overdue	<p>Welcome Admin Julian : Available options are:</p> <pre> ~~~~~ 1) Customer account operations 2) Customer profile settings 3) Admin profile settings 4) Delete customer 5) Print all customers detail 6) Print all admins detail 7) Overdue loan charge 8) Interest 9) Sign out </pre> <p>Choose your option: 7</p>	Message saying that there are no overdue loans	<p>Choose your option: 7</p> <p>No overdue loans</p>
16	Adding interest	<pre> def applyInterest(self): #simple interest = total * interest rate * years #1 day in years = 0.00273973 interest = (self.getBalance() * self.getInterestRate()) * 0.00273973 amountWithInterest = self.deposit(interest) </pre>	Interest added per day by an admin. Amount added shown with the print statements	<p>Welcome Admin Julian : Available options are:</p> <pre> ~~~~~ 1) Customer account operations 2) Customer profile settings 3) Admin profile settings 4) Delete customer 5) Print all customers detail 6) Print all admins detail 7) Overdue loan charge 8) Interest 9) Sign out </pre> <p>Choose your option: 8</p> <p>£ 0.55 deposited</p> <p>Interest applied to AdamCurrentAccount £ 0.35 deposited</p> <p>Interest applied to DavidCurrent £ 0.10 deposited</p> <p>Interest applied to DavidSavings £ 1.98 deposited</p> <p>Interest applied to StudentAliceAccount £ 0.01 deposited</p> <p>Interest applied to AliMainAccount</p>

17	Test quitting the system to see if the GUI message box works	<pre> Welcome to the Python Bank System 1) Admin login 2) Customer login 3) Quit Python Bank System Choose your option: 3 </pre> 	After clicking yes, the message box and blank GUI page are closed. A message should appear to confirm that the program has ended	<pre> Welcome to the Python Bank System 1) Admin login 2) Customer login 3) Quit Python Bank System Choose your option: 3 Thank you for stopping by the bank! </pre>
18	Make sure the data is saved to a text file so that it can be loaded from that file	<pre> def save(self): #put customer and admin list into another list data1 = (self.adminList, self.customerList) #makes a file and writes bank data into it output = open('bankData.pkl', 'wb') pickle.dump(data1, output) output.close() </pre>	A file called "bankData.pkl" should be made containing the bank data	
19	Test overdue loan charge by lowering the time to repay and making some loans	<pre> self.loanDueDate = datetime.now() + timedelta(days=0.0001) </pre> <p>Days to repay the loan lowered from 21 so that the overdue loan charge could be tested.</p> <p>Two loans made from Adam's account. A loan made from David's savings account. A loan made from Alicie's student account and paid on time.</p>	Any loans that aren't paid back in full will get the daily charge at a set amount of £4. If paid back or there are no other outstanding loans, there should be a statement to	<pre> Choose your option: 7 AdamLoan loan charged £4 daily fee AnotherAdamLoan loan charged £4 daily fee SmallLoanForDavid loan charged £4 daily fee No overdue loans </pre>

			inform the user of this.	
20	Test the admin option of printing all the customers details	<p>Welcome Admin Julian : Available options are:</p> <p>~~~~~</p> <ul style="list-style-type: none"> 1) Customer account operations 2) Customer profile settings 3) Admin profile settings 4) Delete customer 5) Print all customers detail 6) Print all admins detail 7) Overdue loan charge 8) Interest 9) Sign out <p>Choose your option: 5</p>	Print each customer's name and address	<p>Choose your option: 5</p> <p>1. Name Adam: Address: 14 Wilcot Street Bath BS 5RT</p> <p>-----</p> <p>2. Name David: Address: 60 Holborn Viaduct London EC1A 2FD</p> <p>-----</p> <p>3. Name Alice: Address: 5 Cardigan Street Birmingham B4 7BD</p> <p>-----</p> <p>4. Name Ali: Address: 44 Churchill Way West Basingstoke RG21 6YR</p> <p>-----</p>