1. **Amrutanshu Nege**

**Question 1**

**Description:**

You have been given this cash machine to test, write a test case in the table below for each of the red arrows below:

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|  |  |
| --- | --- |
| **Test Case No.** | **Test Case** |
| **1** | **Check the display screen is displaying “Please insert your card” and speaker should be saying “Welcome to the ATM”.** |
| **2** | **Green light should be blinking at the card reader and the speaker should be saying “Please insert your card in the card reader.** |
| **3** | **Try inserting ATM card in card reader with a valid and invalid orientation of card. For invalid orientation, the card should not be accepted and the display should give that info whereas for correct orientation, the card should be accepted and display should move to the next menu.** |
| **4** | **Use the screen buttons to try out different options in the menu displayed on the screen.** |
| **5** | **Use buttons to select cash withdrawal and use keypad to enter the amount.** |
| **6** | **Confirm the amount to withdraw by using the buttons and the display should prompt for the security pin for the card. Even the speaker should say “Please enter your pin”. Enter the security pin using keypad and press submit on screen.** |
| **7** | **Collect the cash from cash dispenser and verify it is same as the amount entered.** |
| **8** | **Collect the receipt from the receipt printer, verify the date, time, transaction number, amount, card info, etc in the receipt.** |
| **9** | **After completion of the transaction, the card reader should return the ATM card back to the user. The speaker should say “Thankyou for banking with us”.** |
| **10** | **Card reader lights should turn green to accept another card.** |
| **11** | **Insert the card again and this time select cash deposit option in the menu displayed on the screen.** |
| **12** | **Insert the cash in the deposit slot and check for the denominations displayed on the screen. The total amount should be correctly displayed on the screen.** |
| **13** | **Select the deposit option on the screen and enter the security pin afterwards when prompted on screen and also by the speaker.** |
| **14** | **Card should be returned back to user after the transaction.** |
| **15** | **Receipt printer should provide a receipt with the deposited amount information, current balance and date/time.** |
| **16** | **The card reader should be blinking in green colour to accept card for another transaction. The speaker should say “Thankyou for banking with us”.** |
| **17** | **Insert the card again inside the card reader and go to cash withdrawal.** |
| **18** | **Enter the amount and enter the security pin also.** |
| **19** | **Do not click on submit, click on cancel button displayed on the keypad. It should cancel the transaction.** |
| **20** | **Display screen should prompt “Transaction Cancelled” along with the speakers.** |
| **21** | **Card is returned back to the user and speaker should say “Thankyou for banking with us.** |
| **22** | **Card reader lights should turn green again to accept another transaction.** |
| **23** |  |
| **24** |  |

**Question 2**

**Description:**

Your team is developing software for a thermostat controller that has a switch for turning the heat on and off.

The following algorithm has been implemented:

* If the heating switch is on:
  + If the measured temperature is equal to or higher than 23°C, the heat is turned off.
  + If the measured temperature is lower than 23°C, the heat is turned on.
* If the heating switch is off:
  + If the measured temperature falls below 5°C, the heat is turned on to prevent the water in the heating system from freezing.
  + Otherwise, the heat is turned off.

Define the optimal (effective and efficient) set of boundary test cases to adequately test the thermostat controller.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case No.** | **Measured temperature** | **Heating switch** | **Heating** |
| 1 | 23 | ON | OFF |
| 2 | 22 | ON | ON |
| 3 | 4 | OFF | ON |
| 4 | 5 | OFF | OFF |
| 5 |  |  |  |
| 6 |  |  |  |

**Question 3**

**Description:**

Today is the last day of your agile team’s sprint; it will be delivered for user acceptance testing today at 3:30 PM. Features developed in this sprint are crucial to a client’s insurance sales campaign. The key feature of the campaign is a bonus scheme offered to clients who have other insurance policies with that insurer:

|  |  |  |  |
| --- | --- | --- | --- |
| **No. of policies in the past 3 years** | **1-5** | **6-10** | **>11** |
| Bonus | 5% | 7% | 9% |

Due to some late changes in specification, you received the table above and the code for testing only this morning. So far, you have prepared these test cases for the bonus scheme, which have passed:

|  |  |  |
| --- | --- | --- |
| **Test Case No.** | **Input value (No. of policies in the past 3 years)** | **Expected response (Bonus)** |
| 1 | 0 | 0% |
| 2 | 1 | 5% |
| 3 | 5 | 5% |
| 4 | 11 | 9% |

Also, you found two bugs in the policy entry form that were fixed and are waiting to be retested. It is 11 AM now. Choose tasks that need to be finished before 3:30 PM (time-to-complete estimation for each task is given in brackets):

Write and automate regression tests for the two fixed bugs and include them in the regression test set, since it is likely that these bugs will reappear in later releases. [1 hour]

Retest delivered bug fixes since those bugs were found in the critical features of the solution. [1 hour]

Write and execute some more test cases for the bonus scheme, to make sure that this important feature has adequate test coverage. [2 hours]

Prepare and deliver the test report. [1 hour]

Repeat the sprint test set review with the scrum master and the product owner to make sure that some critical part is not missed. [1 hour]

**Question 4**

**Description:**

Select all the operations for which Selenium WebDriver has built-in functions.

Skip parts of a video that is playing on a website.

Move mouse to a position.

Press keyboard keys.

Submit a form.

Bookmark a page.

**Question 5**

**Description:**

Given the following sample of pseudo code:

01 Read the number of languages spoken

02 Read the number of countries visited

03 If number of languages spoken > 1 and number of countries visited > 0 then

04 Input “Do you want to travel more? (Yes or No)”

05 If “Yes”

06 Issue passport

07 End if

08 End If

Which of the following test cases will ensure that statement “06” is executed?

Answer 🡺 D

**A** Languages spoken = 1, countries visited = 0, travel more = “Yes”.

**B** Languages spoken = 1, countries visited = 1, travel more = “No”.

**C** Languages spoken = 2, countries visited = 2, travel more = “No”.

**D** Languages spoken = 3, countries visited = 2, travel more = “Yes

**Question 6**

**Description:**

Given the following data definition, write a query that brings back all the values from the product table:

A picture containing text, indoor

Description automatically generated

**Answer: SELECT \* FROM products;**

**Question 7**

**Description:**

Using the data definition above, write a query that selects all the product names which have the lowest price:

**Answer: SELECT name FROM products WHERE price == (SELECT MIN(price) FROM products);**