1. **A life Insurance company charges a premium for a specific Policy as per the following criteria.**

|  |  |
| --- | --- |
| **Age** | **Rate** |
| Age<=35 years | Rs. 4,500/- per year |
| 35<Age<=59 | Rs. 4,500/-+Rs. 100 for every year above 35 years of age |
| Age>59 | Rs. 10,000/- |
| No Insurance for Age above 75 years of Age |  |

**Write Black Box Test Cases for the above scenario.**

Use cases

* Rs. 4,500/- per year for the clients less than or equals 35 years of age
* Rs. 4,500/- + Rs. 100(For every year above 35 years of age) per year for the clients above 35 years and less than or equals to 59 years
* Rs. 10,000/- per year for the clients above 59 years and less than or equals to 75 years of age
* No Insurance availed for clients above 75 years of age

|  |  |
| --- | --- |
| **Age** | **Rate** |
| Age<=35 years | Rs. 4,500/- per year |
| 35<Age<=59 | Rs. 4,500/-+Rs. 100 for every year above 35 years of age |
| 59<Ag<=75 | Rs. 10,000/- |
| Age above 75 | Nil/0 |

1. **Taxable income for individual person will be calculated as per the following table:**

|  |  |
| --- | --- |
| **Martial Status** | **Non Taxable Income** |
| Single | Rs. 4,750/- |
| Married filing Joint Return | Rs. 9,500 |
| Married Filing separate Return | Rs. 7,000/- |

If one of the spouses in a married couple does not avail standard deduction then the other spouse is also not eligible for standard deduction.

A further deduction of Rs. 1,000/- is applicable for age more than 60 (senior citizen) who are filing claims.

Use cases

|  |  |
| --- | --- |
| **Martial Status** | **Non Taxable Income** |
| Single | Rs. 4,750/- |
| Married filing Joint Return | Rs. 9,500 |
| Married Filing separate Return | Rs. 7,000/- |
| Widowed | Some amount to be filled |

* deduction of Rs. 1,000/- is applicable for age more than 60

1. **A shopping mall gives discounts according to following slabs for bulk purchases**

|  |  |
| --- | --- |
| **Quantity** | **Discount Rate** |
| First 10 units | No Discount |
| Units more than 10 less than or equal to 20 | 10% discount |
| Units more than 20 less than or equal to 30 | 20% |
| More than 30 units | 30% |
|  |  |

In addition to the above discount an additional 5% discount is given to the senior citizens. There is a special category of wholesale dealers who will be given a flat 40% discount for all purchases. *Category of dealers is “Normal”, “Senior Citizen” or “Wholesale dealer”*

Use case

* There must be mentioned if a senior citizen buy first 10 units still will he be discounted with additional 5%?
* Whether wholesale dealers will also be provided with 40% discount on first 10 units(as it is mentioned for all purchases) or not?

1. A Credit Card Company issues a Credit Card to its customer

The customer can use this credit card for withdrawal of cash. If a customer withdraws a cash amount of say 5000/-. One time transaction amount of 300/- is charged. All Taxes on total amount is 150/- . From the day of withdrawal an interest of 3% per month (36% annual) is imposed on the total amount withdrawn (here on 5000/-). Due date is 30 Days after withdrawal. Irrespective of when the amount is paid an interest for 1 month will be collected from the customer. If the person pays the entire amount on or before 30th day the Status would be marked as Amount Paid on Day 31. In case person repays a partial amount say Rs.3000/- by cash on 30th day. Then interest will be imposed on the balance amount after the 30th day.

Assumption Amount\_To\_Be\_Paid- Amount to be paid by the Customer

Interest= Calculated interest on the withdrawn Amount

Principal=Actual Amount withdrawn by the Customer

Amount \_Paid= Amount Paid by the Customer

Use cases

* In a month to be spent <= Rs.5000
* If exceeds Rs. 5000 limit, one time transaction charge is Rs. 300
* The charges will be Rs. 150 per transaction, after the one time transaction(after exceeding Rs. 5000 limit).
* An interest of 3% over Rs. 5000 per month will be imposed after exceeding Rs. 5000 limit.
* After a period of 30 days compound interest will be imposed over principle amount
* Compound Interest=Principle[1+ (rate/100)] ^time(in years)
* Total Amount= Principle + Interest
* Consider leap year and 28 days of february

1. HDFC Bank provides Home loan for its customer .The home loans are of two types : Floating Interest and fixed interest. In case of fixed Interest the interest applicable will be dependent on the interest rate at the time of loan. In case of Variable interest the interest rate is dependent on the interest rates prevalent for that period. No EMI will be paid in first month of the loan. If the EMI is not paid for then a late fee of 1,000/- is added to the next month and the EMI is carried forward to next month. The EMI is calculated as follows:

Amount of loan \* rate of interest

Monthly EMI = ------------------------------------------

100

Assume at the entry interest rate is 11% and amount is 30, 00,000/-. The interest rate changed after forty five days to 11.5%. The changed interest will be applicable for next month.

Write the Test cases for the following:-

Note:-Assume that above formula is applicable for all the days and on principle loan amount.

Use cases

* In case of fixed interests, interest rate will be imposed at the time of the loan.
* In case of variable interests, the interest rate is dependent on the interest rates prevalent for that period.
* No EMI will be paid in first month of the loan.
* If the EMI is not paid for then a late fee of 1,000/- is added to the next month and the EMI is carried forward to next month.
* After (first month + 45 days=)75 days monthly interest will be imposed using given formula. The changed interest will be applicable for next month over principle amount.

1. **Case study - Public Provident Fund (PPF) Requirements :**
2. Any person aged between 18 and 50 can open an account.
3. The maximum amount that can be deposited in an account in a financial year is Rs. 60,000/-.
4. Account holder can withdraw a part of the account balance after completion of six financial years of opening the account. (e.g. For an account opened in August 1991, first withdrawal is allowed on or after 01-Apr-98).. The amount of withdrawal allowed is 50% of the lower of the following two – (1) balance at the end of 4th preceeding financial year, (2) balance at the end of the last financial year.

(e.g. on 25-Jun-2008, 50% of the lower these two will be taken into consideration :

balance as on 31-Mar-2008 or 31-Mar-2005).

Use case

* No account opening for person less than 18 years of age
* Age criteria to open an account -- 18<age<50
* Max amount that can be deposited in an account is Rs. 60,000/- per year.
* Account holder can withdraw a part of the account balance after completion of six financial years of opening the account.
* The amount of withdrawal allowed is 50% of the lower of the following two –

(1) balance at the end of 4th preceeding financial year,

(2) balance at the end of the last financial year.

1. Prepare the possible test cases for a typical ATM machine operation

Use cases

1. Verify the ‘ATM Card Insertion Slot’ is as per the specification

2. Verify the ATM machine accepts card and PIN details

3. Verify the error message by inserting a card incorrectly

4. Verify the error message by inserting an invalid card (Expired Card)

5. Verify the error message by entering an incorrect PIN

6. Verify that the user is asked to enter the PIN after inserting a valid ATM Card

7. Verify that PIN is encrypted

8. Verify that there is an action like blocking of card occurs when the total no. of incorrect PIN attempts get surpassed

9. Verify the user is allowed to do only one cash withdrawal transaction per PIN request

10. Verify the machine logs out of the user session immediately after successful withdrawal

11. Verify the message when there is no money in the ATM

12. Verify the language selection functionality

13. Verify the cash withdrawal functionality by entering some valid amount

14. Verify the cash withdrawal functionality by entering an amount less than 100

15. Verify the cash withdrawal functionality by entering an amount greater than the total available balance in the account.

16. Verify the cash withdrawal functionality by entering an amount greater than per day limit

17. Verify the user is allowed to enter the amount again in case the amount entered is not valid. A proper message should be displayed.

18. Verify the ATM machine successfully takes out the money.  
19. Verify the ATM machine takes out the balance printout after the withdrawal

20. Verify the font of the text displayed in ATM screen

21. Verify the text on the screen buttons visible clearly.

22. Verify the functionality of all the buttons on the keypad

23. Verify the text on the buttons visible clearly.

24. Verify that touch of the ATM screen is smooth and operational

25. Verify the user is allowed to choose different account types like Savings, Current etc. ,

26. Verify the different combinations of operation and check if there will be an electricity loss in the middle of the operation. If there is an electricity loss in the middle of the transaction then the transaction should be marked as null and the amount shouldn’t be disclosed to others.

27. Verify the functionality of the cash dispenser

28. Verify the functionality of the receipt printer

29. Verify whether the printed data is correct or not in the receipt

30. Verify how much time the system takes to log out.

1. The Computer Science department at NCSU is in the process of building a new CSC building on Centennial Campus. We all know that computer scientists love caffene, so the CSC department is planning on installing a CoffeeMaker in a lounge across the hall from the 24-hour computer lab. Our job is to test and model the functionality of the CoffeeMaker. We are only working with the logic code behind the hardware, so only a command line interface is used.

Consider the CoffeeMaker is a command line interface application that will serve as the software of a Coffee Maker.

Use cases

1.verify the coffee machine is working properly or not by  
switching ON power supply.  
2.verify the coffee machine when power supply is improper.  
3.verify the machine that all buttons are visible.  
4.verify the indicator light that the machine is turned ON  
after switching on power supply.  
5.Verify the machine when there is no water.  
6.verify the machine when there is no coffee powder.  
7.Verify the machine when there is no milk.  
10.Verify the machine when there is no sugar.  
8.Verify the machine operation when it is empty.  
9.Verify the machine operation when all the ingredients are  
upto the capacity level.  
10.Verify the machine operation when water quantity is less  
than its limit.  
11.Verify the machine operation when milk quantity is less  
than its capacity limit.  
12.Verify the machine operation when coffee powder is less  
than its capacity limit.  
13.verify the machine operation when sugar available is  
less than its capacity limit.  
14.Verify the machine operation when there is metal piece  
is stuck inside the machine.  
15.verify the machine by pressing the coffee button and  
check it is pouring coffee with appropriate mixture and  
taste.  
16.verify the machine by pressing the Tea button and check  
it is pouring Tea with appropriate mixture and taste.  
17.It should fill the coffee cup appropriately i,e quantiy.  
18.verify coffee machine operation with in seconds after  
pouring milk,sugar,water etc.It  
should display message.  
19.Verify all the buttons operation.  
20.Verify all the machine operation by pressing the buttons  
simaltaneously one after the other.  
21.Verify the machine operation by pressing two buttons at  
a time.  
22.verify the machine operation at the time power  
fluctuations.  
23.Verify the machine operation when all the ingredients  
are overloaded.  
24.Verify the machine operation when one of the ingredient  
is overloaded and others are upto limit.  
25.Verify the machine operation when one or some of the  
parts inside the machine are damaged.