

Object Type	Object Name	Description
Text Box	txtName	To enter the Member name
	TxtNumber	To enter the Member Number
	TxtAge	To enter the Member Age
Option	TxtAmount	To enter the Membership Amount
	OptMale	To Select Male
	OptFemale	To Select Female
	OptLife	To select Life time membership
	OptYear	To select Yearly membership
Check Box	OptMonth	To select Monthly membership
	ChkSwim	To select Swimming Activity
	ChkGolf	To select Golf Activity
	ChkBowling	To select Bowling Activity
	ChkGym	To select Gymnasium Activity
	ChkBad	To select Badminton Activity
Command Button	ChkTT	To select Table Tennis Activity
	CmdProcess	To Calculate the Membership Amount
	CmdClear	To clear all eh entered data
	CmdExit	To end the application

- 1) Write a code for **CmdClear** to clear all the textboxes 2m
- 2) Write a code for **cmdProcess** which processes the membership the following criteria should be met  
 If the membership type is “Life Time”, the Membership amount is Rs.1,00,000 and the all the activities get checked. If the membership type is “Yearly”, the Membership amount is Rs.10,000 and the following activities get checked Badminton, Table Tennis, Bowling and Gymnasium. If the membership type is “Monthly”, the Membership amount is Rs.1,000 the following activities get checked Badminton and Table Tennis. 4m
- 3) Write a code for **cmdExit** which terminates the execution of the program. 1m

ABC Company has developed the following interface to enter and display data related to Income tax of employees.

**Income Tax Calculations**

Enter the Employee Code: 
Enter the Employee Name:

Enter Taxable Income:

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Income Tax 
Education Tax 
Surcharge

Tax Payable

The form details of the above form are given in the following table :

Object Type	Object Name	Description
Form	FrmSalary	The main Form Object
Text box	TxtEmpCode	To enter code of Employee.
	TxtName	To enter Name of Employee.
	TxtIncome	To enter Taxable Income of Employee.
	TxtITax	To display Income tax
	TxtEdTax	To display Educational tax
	TxtSurcharge	To display Surcharge
	TxtTotalTax	To display Total Tax to be paid by the employee.
Command Buttons	cmdCalculate	To calculate Income tax, Education Tax, Surcharge and Total Tax
	cmdClear	To clear all the values in Text boxes
	cmdExit	To close the application.

Write code to implement the following :

- (a) When the form loads text boxes for Income tax, Education Tax, Surcharge and Total Tax Amount should be disabled. They should be enabled only when Calculate command button is clicked. 2
- (b) Taxable Income entered should be numeric data. 2
- (c) When the user clicks the Clear command button, textboxes EmpCode and EmpName should be set to blank and other textboxes should be set to zero. 2
- (d) When Calculate command button is clicked, Income tax, Education Tax, Surcharge and Total Tax (sum of Income Tax, Education Tax, Surcharge) is displayed in their respective text boxes based on the following criterion. 4

Taxable Income	Income Tax	Education Tax	Surcharge
UptoRs. 1,00,000	Nil	Nil	Nil
Rs. 1,00,001 to 1,50,000	10% of the amount exceeding Rs. 1,00,000	2% of Taxable Income	Nil
Rs. 1,50,001 to 2,50,000	Rs. 5,000+20% of amount exceeding Rs. 1,50,000	2% of Taxable Income	Nil
Rs. 2,50,001 and above	Rs. 25,000+30% of the amount exceeding Rs. 2,50,000	2% of Taxable Income	1% of Taxable Income

AMIS INTERNATIONAL has computerized its Payroll. The following is the Data Entry screen used by them :

AMIS INTERNATIONAL

Enter Employee Code

Enter Employee Name

Employee Type

Temporary

Permanent

Permanent

Enter Basic

Enter Over Time Hours

House Rent Allow.

CCA

Temporary

Enter Number of Days Worked

Enter Over Time Hours

Calculate

Clear

Exit

Salary Amount

Over Time Amount

Write code to implement the following :

- (a) If option button for Permanent Employee is chosen then Controls in the Frame related to Temporary Employee should be disabled and if option button for Temporary Employee is chosen then Controls in the Frame related to Permanent Employee should be disabled. 2
- (b) When the user clicks Clear button, all the values stored in text boxes and option button should be cleared. 2
- (c) Check that in the text box for Employee code (txtEmpCode) only numeric data is entered. 2
- (d) When the command button with caption “Calculate” (cmdCalculate) is clicked, HRA, CCA, OverTime Amount, Salary Amount and Total Amount should be calculated in case of Permanent Employee and OverTime Amount, Salary Amount and Total Amount should be calculated in case of Temporary Employee. 4

Permanent Employee	Temporary employee
<div>If Basic &lt; 5000 House rent allowance is 12% of basic CCA is 15% of basic</div> <div>If Basic &gt;= 5000 &lt; 10,000 House rent allowance is 15% of basic CCA is 25% of basic</div> <div>If Basic &gt;=10,000 House rent allowance is 25% of basic CCA is 40% of basic</div> <div>The overtime amount is calculated as (Basic/30) * Overtime hours</div> <div>SALARY AMOUNT is calculated as BASIC + CCA + HOUSE RENT</div>	<div>If Number of days worked is &lt; 30 Salary amount is calculated as Number of days worked * 75 Overtime amount is calculated as Number of days worked * 50</div> <div>If Number of days worked is &gt;= 30 Salary amount is calculated as Number of days worked * 100 Overtime amount is calculated as Number of days worked * 75</div>

Agnelo Ferdnandez

ABC Co. LLC is working with an application where they use a form to calculate the daily incentives of their employees on certain criteria.

The objects used are:

Text Box : txtSalesAmount

txtCommission

Option Button: optLess5000

opt5001To10000

optAbove10000

optFood

optNonFood

Check Box : chkSpecial

chkNormal

Command Button : cmdCalc

cmdExit

Sale

Commision

☐ Special Allowance

☐ Normal

Salary

☐ < 5000

☐ 5001 - 10000

☐ > 10000

☐ Food Products

☐ Non Food

Calculate

End

- Write the command for the End button which will close the form but not the application
- Write the command when option Food Products are selected then Special Allowance is deactivated
- Write code for the calculate button according to the following criteria:

If the category is Special Allowance and

If salary less than 5000 then 5 % commission on sales

If salary is between 5001 and 10000 then 7.5% commission

Is salary is above 10000 then 10% commission

An additional 2% commission will be allowed for the Food Products

If the category is normal then no commission is allowed

Write command to clear textboxes and set the category as special allowance by default

Read the following case study and answer the following questions :

Agnelo Ferdnandez

Mr. Blake of **OWR OWN HIGH SCHOOL** designs a Stream selection form for his students of grade 11 in Visual Basic based on the average mark of the three subjects Mathematics, Science and Social Studies. He has faced difficulty in coding, questions given below would help him complete this application.

Stream

OUR OWN HIGH SCHOOL

STUDENT NAME

COMPUTER NUMBER

Marks

Mathematics

Science

Social Studies

Average Marks

Stream

Science

Commerce

Stream

Clear

Exit

The List for the above form is as follows

Object Type	Object Name	Description
Form	frmStream	The Main Form Object
Text Box	txtName	To enter the Student name
	txtcomp	To enter the Computer number
	txtMath	To enter the Mathematics mark
	txtSci	To enter the Science Mark
	txtSoc	To enter the social Studies Mark
	txtAverage	To display the Average Mark
Option	optScience	Selects Science Stream
	optCommerce	Selects Commerce Stream
Command Button	cmdStream	To select the stream
	cmdClear	To clear all the entered data
	cmdExit	To end the application

Write a code for **cmdStream** which displays the average mark in txtAverage after, and automatically selects the steam based on the following criteria :

- AVERAGE > = 75 Steam = “Science”
- AVERAGE < 75 Steam = “Commerce”

Case Study 7

The screenshot shows a Windows application window titled 'Form1' with a blue title bar. The application has a light blue background. At the top, there is a red rectangular button labeled 'RELAX CLUB'. Below this, there are two input fields: 'MEMBER NAME' and 'MEMBER NUMBER'. Under 'MEMBER NAME' is a 'Membership Type' group box containing three radio buttons: 'Life Member', 'Yearly Member', and 'Monthly Member'. To the right of the 'Membership Type' group box is an 'Amount' input field. Below the 'Amount' field is a 'Payment Type' group box containing two radio buttons: 'Lumpsum' and 'Installment'. To the right of the 'Payment Type' group box is an 'Amount Payable' input field. At the bottom of the window, there are three buttons: 'Calculate', 'Clear', and 'Exit'.

- Requirement 1** If the membership type is Life, Amount = Rs.2,00,000/-.  
If the membership type is Yearly, Amount = Rs.1,25,000/-.  
If the membership type is Monthly, Amount = Rs.80,000/-.
- Requirement 2** If payment terms is lumpsum then a discount of 20% is offered otherwise  
If the payment terms is installment, the entire amount is divided over 12 equal installments
- Requirement 3** Clear all the option buttons and text boxes.
- Requirement 4.** Exit the application.

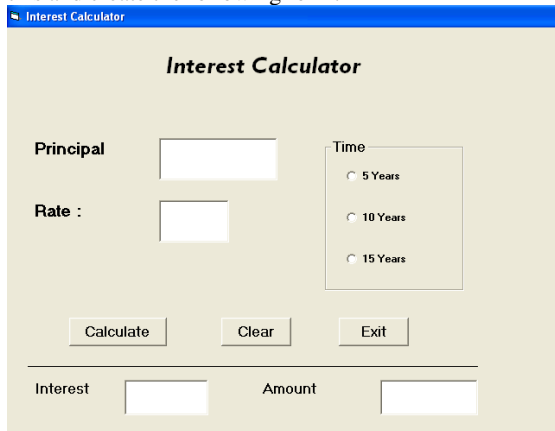
1. Write a function **AmtCalc()** for requirement 1 which accepts the membership type as a parameter and returns the amount. 4m
2. Write a function **AmtPay()** for requirement 2 which accepts the Amount as a parameter and returns the amount payable based on the options Lumpsum or Installment. 4m
3. Write a code snippet for requirement 3 1m
4. Write a code snippet for requirement 4 1m

The screenshot shows a Windows application window titled 'Form1' with a blue title bar. The application has a light beige background. At the top, there is a black rectangular button labeled 'ROOTS OF THE QUADRATIC EQUATION'. Below this, there are three input fields: 'Enter the Value for 'a'', 'Enter the Value for 'b'', and 'Enter the Value for 'c''. Below these three input fields is a 'Discriminant' input field. At the bottom of the window, there are two buttons: 'Calculate' and 'Exit'.

- Requirement 1** The data entered in the three text boxes should be numbers
- Requirement 2** Discriminant is calculated using the following formulae  $b^2 - 4ac$ .  
If  $D = 0$  then the roots are equal  
If  $D < 0$  then the roots are imaginary  
If  $D = 0$  then the roots are real  
A message box should appear displaying the two roots.
- Requirement 3** Terminate the application.
1. Write a code snippet for Requirement 1
  2. Write a code snippet **cmdCalculate()** for requirement 2.
  3. Write a code snippet for Requirement 3.

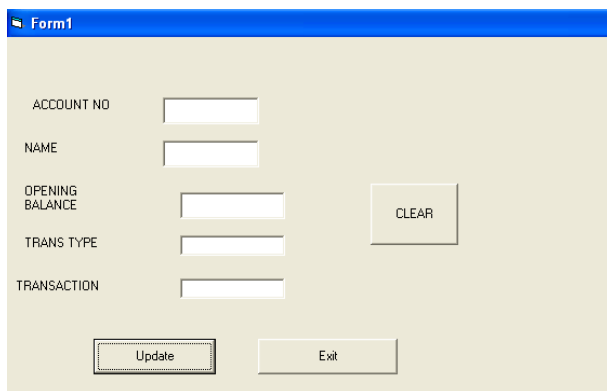
## Agnelo Ferdnandez

Mr Raj frequently needs to calculate the interest and amount due from his clients. He asks his software programmer to design an interest calculator which will calculate the compound interest and amount due if a person takes a loan for 5, 10 or 15 years. The programmer opts for VB to develop this and create the following form:



The List from the above form is as follows:

- Write the code to disable the Text boxes **txtInterest** and **txtAmount** in the form load event of **frmInterestCalc**.
- Write the code for **cmdClear** Command Button to clear all the textboxes and set default choice in the Option Button as 5 years. Also set the focus to **txtPrinciple**.
- Write a code snippet for cmdExit which displays a message “Good Bye....” and then quits the application



**Requirement 1.** If the Trans Type = “D” then Transaction = Opening Balance + Transaction Else  
If the Trans Type = “W” then Transaction = Opening Balance – Transaction

(Note that if the Opening Balance is less than Transaction a message box should display “You have insufficient funds”)

**Requirement 2.** If any other character other than ‘D’ or ‘W’ is entered the txtTransType contents should be cleared and the focus should be set to it.

**Requirement 3.** The contents in all the text boxes should be cleared

**Requirement 4.** A message ‘Quitting’ should be displayed and the program should terminate.

- Write a code snippet **cmdUpdate** for Requirement 1
- Write a procedure **checkData()** for requirement 2.
- Write a code snippet for Requirement 3.
- Write a code snippet for Requirement 4.

Mr. Jackson has designed a VB form to gather the data regarding the ranks and prize amounts won by different teams in an annual sports meet. He has used different controls for storing the sports name, rank and the prize amount respectively. Now he wishes to make the following changes to the application he designed.

Object	Object Name	Description
Form	FrmSports	The main Form Object
Label	Lblname Lblparticipated Lblrank Lblprize	
Text Box	TxtTeamname Txtrnkbasket Txtrnkfootball Txtrnkvolley Txtprzhockey Txtprzbasket Txtprzfootball Txtprzvolley Txtprzhockey	To enter Team name To enter rank To enter rank To enter rank To enter rank To enter prize To enter prize To enter prize To enter prize
Check Box	Chkbasket Chkfootball Chkvolleyball Chkhockey	
Command Button	Cmdcalculateprize Cmdclear	To calculate the prize. To clear the text box and check box

- The team Name should be displayed in upper case and the text box for rank should be enabled only if the corresponding check box is checked. [3]
- The text box for prize amount should be enabled only if the corresponding check box is checked [2]
- The contents of the text box prize amount should be a non-negative number. [2]
- When the user clicks the command button Calculate Prize Amount, the total prize amount should be displayed in a message box. [2]
- When the user clicks the clear button, the form should be restored to the default state. [1]

Read the following Case Study, Study the form the shown in the figure shown below:- the form below indicates a Coffee Day coffee shop in your town . It has the computerized billing system for the beverages. The cost of Tea in this coffee shop is Rs 15/- and that of coffee is Rs.25/- There are extra option which can be selected by the user. each extra toppings has Rs 10/-

Object Type	Object Name
Text Box	txtName
	txtRate
	txtAmount
	txtToppings
	txtQuantity
Commands	cmdRate
	cmdAmount
	cmdExit

- Write the commands to disable the text boxes txtRate, txtAmount and txtToppings. (2)
- Write the command and event the exit the application (2)
- Write a code segment to calculate the rate and amount according to the options selected by the user (4)
- Write the segment or name of property to display the cost of toppings when the user has mouse over the toppings (1)
- Write a segment to display a message box saying select the beverage type first (1)