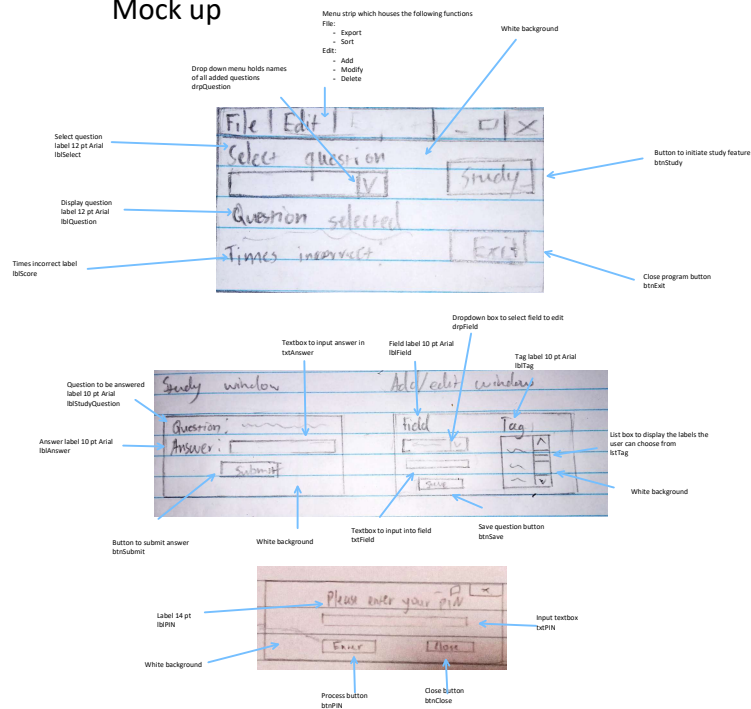


Mock up



Pseudocode

```
PIN check
START
  InputPIN <- txtPIN.text
  IF InputPIN = PIN THEN
    Open frmMAIN
  ELSE
    MessageBox("Incorrect PIN, please try again.")
  ENDIF
END
```

```
Question selected label
START
  SelectedQuestion <- lstQuestions.index
  Read Question file
  DisplayQuestion <- Find question with corresponding index
  lblQuestion.text <- "Question Selected - " & DisplayQuestion
END
```

```
Answer check
START
  ans <- txtAnswer.text
  lblQuestion.text <- Random(DisplayQuestion)
  MessageBox(Question + ans)
  IF YesNo("Was the answer incorrect?") = Yes THEN
    Score += 1
  ENDIF
END
```

```
Adding question (when drpField changed)
START
  IF drpField.selected = "Question" THEN
    Question <- txtField.text
    Elseif drpField.selected = "Answer" THEN
      Ans <- txtField.text
    Elseif drpField.selected = "Name" THEN
      Name <- txtField.text
    ENDIF
  END
```

```
Searching (binary search)
START
  binarySearch(questions, search term, low, high)
  repeat till low = high
    mid = (low + high)/2
    if (x = arr[mid])
      return mid
    else if (x > arr[mid])
      low = mid + 1
    else
      high = mid - 1
    end loop
  END
```

```
Sort (quick sort)
START
  quickSort(arr[], low, high)
  if (low < high) THEN
    pi = partition(arr, low, high)
    quickSort(arr, low, pi - 1)
    quickSort(arr, pi + 1, high)
  End if
END
```

```
Export
START
  array <- Read question file to end
  For each question in array
    WriteToFile(array)
    WriteLine
    WriteToFile("Answer: ")
    WriteLine
  Loop
END
```

Variable name	Data Type	Size	Scope	Description
PIN	Integer	1	Global	The user's PIN is stored within this variable and it is checked when the user attempts to log in to ensure it is correct.
SelectedQuestion	String	1	Global	The question selected using the list box is stored here so that it can be displayed using a label.
score	Integer	1	Global	Stores the number of times a question was answered incorrectly.
InputAns	String	1	Global	Stores what the user inputs as their answer during the study session so that it can be compared to the stored answer.
tag	String	1	Global	Holds the tag selected.
question	String	1	Global	Holds the string to be added to a question that will be saved.
ans	String	1	Global	Stores the string for the answer that will be added to the saved question.
name	String	1	Global	Holds the name that will be added to the question being edited/added.
InputPIN	Integer	1	Global	Holds the PIN inputted in the login screen so that it can be compared to the PIN stored.
DisplayQuestion	String	1	Global	The question is retrieved from the file and assigned to this variable.
field	String	1	Global	Stores the field that is being edited so it can be stored in the appropriate area.

Object type	Object name	Type	Variable handled	Properties	Description
Form	frmPIN	Event-load	N/A	Colour = control	This is the screen used that prompts the user to input their PIN before they can use the rest of the program.
Form	frmMain	Event-load	N/A	Colour = control	This screen appears after the user has successfully inputted their PIN, housing many of the functions of the program, including viewing questions added.
Form	frmStudy	Event-load	N/A	Colour = control	After clicking the study button this form will appear. This is where the user will complete their study regime.
Form	frmEdit	Event-load	N/A	Colour = control	It is on this screen where the user can add and edit questions saved by the program.
Button	btnPIN	Event-click	N/A	Arial 10pt "Enter"	Initiates code to check if PIN matches the set one.
Button	btnClose	Event-click	N/A	Arial 10pt "Close"	Closes the PIN screen.
Textbox	txtPIN	Method	InputPIN	""	The user inputs the PIN into the textbox here.
Dropdown menu	drpQuestion	Method	SelectedQuestion	Arial 10 pt "Read only = true"	Allows the user to select from the questions they have added to the program.
Button	btnStudy	Event-click	N/A	Arial 10 pt "Study"	Opens up frmStudy.
Button	btnExit	Event-click	N/A	Arial 10 pt "Exit"	Closes the program.
Label	lblQuestion	Method	SelectedQuestion	Arial 12 pt "Question selected."	Displays the selected question.
Label	lblScore	Method	score	Arial 12 pt "Times incorrect: "	Displays the score of the selected question.
Label	lblSelect	N/A	N/A	Arial 12 pt "Select question"	Clarifies what the drop down menu does.
Textbox	txtAnswer	Method	InputAns	""	The user types in the answer to the question in this textbox.
Button	btnSubmit	Event-click	N/A	Arial 10 pt "Submit"	Submits the answer and then displays the stored answer for the user to compare.
List box	lstTag	Method	tag	Arial 10 pt "Read only = true"	Allows the user to select from previously added tags.
Button	btnSave	Event-click	N/A	Arial 10 pt "Save"	Saves the question that was being edited in frmEdit.
Textbox	txtField	Method	field	""	The user inputs what they wish to be saved into the selected field.
Drop down menu	drpField	Method	field	Arial 10 pt "Name", "Question", "Answer" Read only = true"	Allows selection of the field (name, question, answer) that the user wishes to edit.
Menu strip	msuFileExport	Event-click	N/A	"Export"	Initiates the export function of the program.
Menu strip	msuFileSort	Event-click	N/A	"Sort"	Initiates the sort function to sort the questions added to the program.
Menu strip	msuFileModify	Event-click	N/A	"Modify"	Opens up frmEdit with the question selected.
Menu strip	msuFileAdd	Event-click	N/A	"Add"	Opens up frmEdit with no question.
Menu strip	msuFileDelete	Event-click	N/A	"Delete"	Deletes the currently selected question.