INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 1

Topics:

- Familiarization with Visual Basic 6 IDE
- Understanding Visual Basic forms
- Understanding basic tools like - Text Box, Label and Command Button
- Understanding event driven programming
- Understanding Visual Basic syntax for elementary operations

Assignments

1. In an organization the gross salary of an employee depends on his/her Basic salary and some other allowances like Dearness Allowance (DA), House Rent Allowance (HRA) and Traveling Allowance (TA). According to the organization's policy -
   DA = 40% of Basic salary
   HRA = 20% of Basic salary
   TA = 10% of Basic salary and
   The gross salary is calculated as –
   Gross salary – Basic salary + DA + HRA + TA

   i) Design a form as shown in Fig-1.
   ii) Give input the name of the employee and his/her basic salary.
   iii) As soon as basic salary is given as input DA, HRA, TA and gross salary will be calculated automatically.
   iv) Use Change event of TextBox and Click event of Command Button as shown in Fig-2.
   v) On clicking the Generate Pay slip button it will close the current form and open a new form as shown in Fig-3.

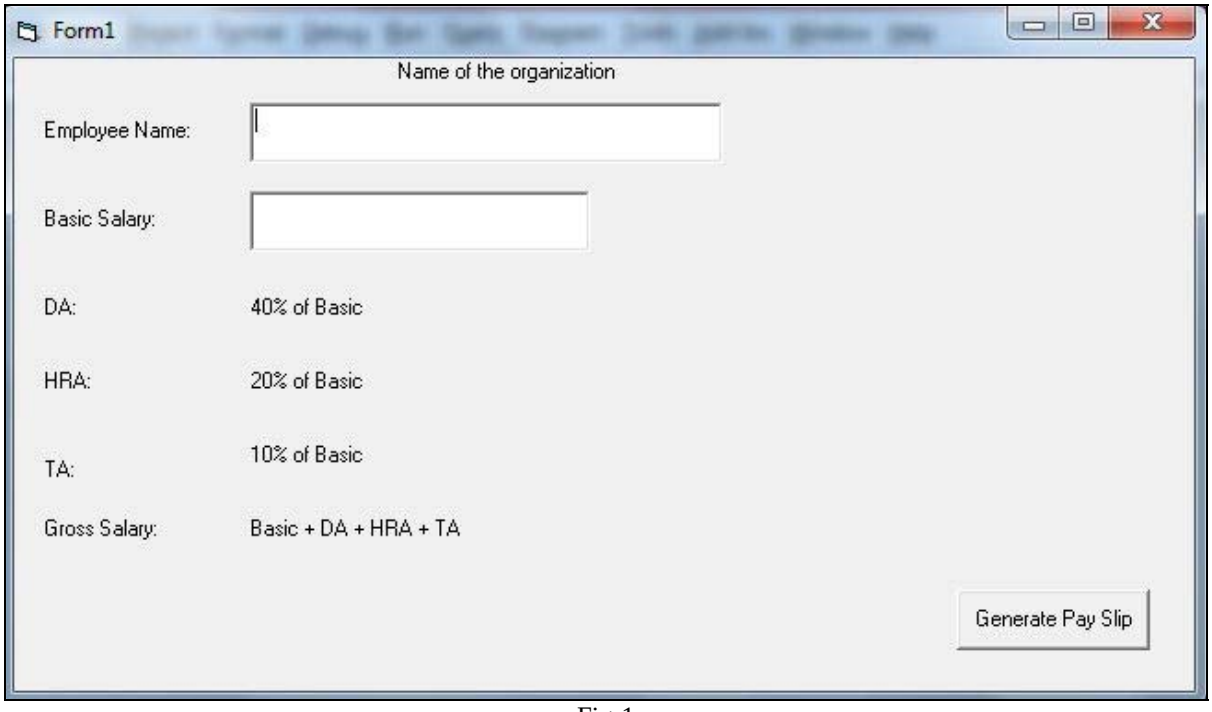

Fig-1

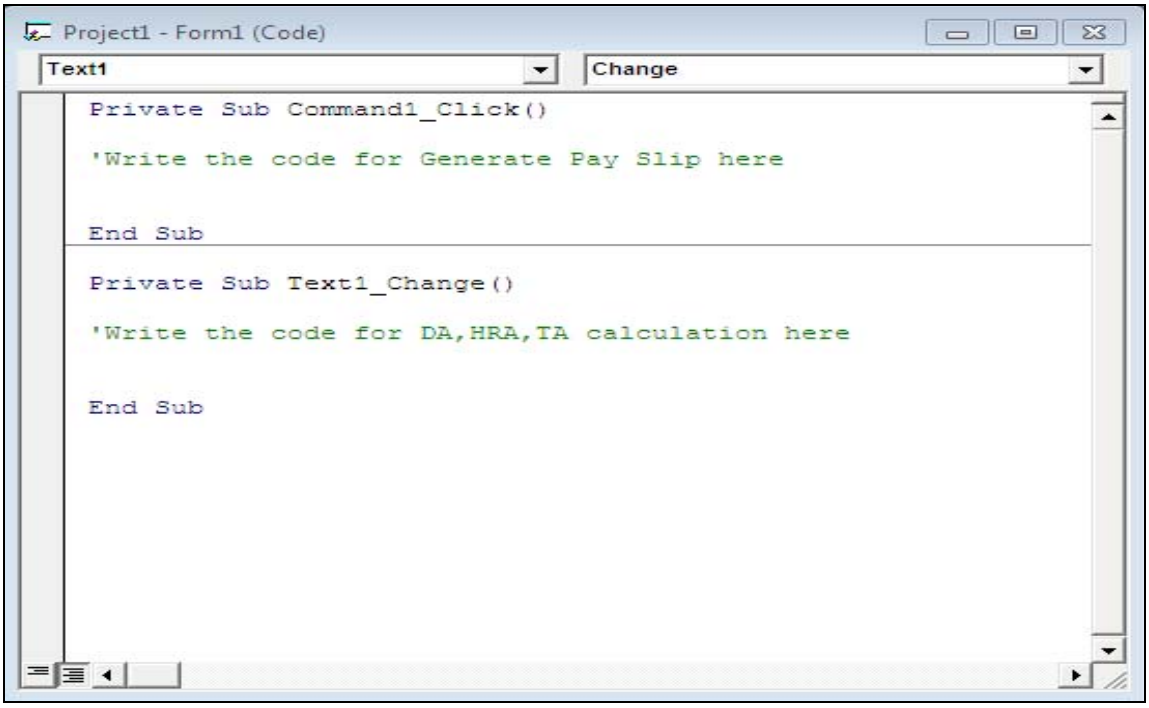
Project1 - Form1 (Code)
Text1
Change
Private Sub Command1_Click()
'Write the code for Generate Pay Slip here
End Sub
Private Sub Text1_Change()
'Write the code for DA,HRA,TA calculation here
End Sub

Fig-2

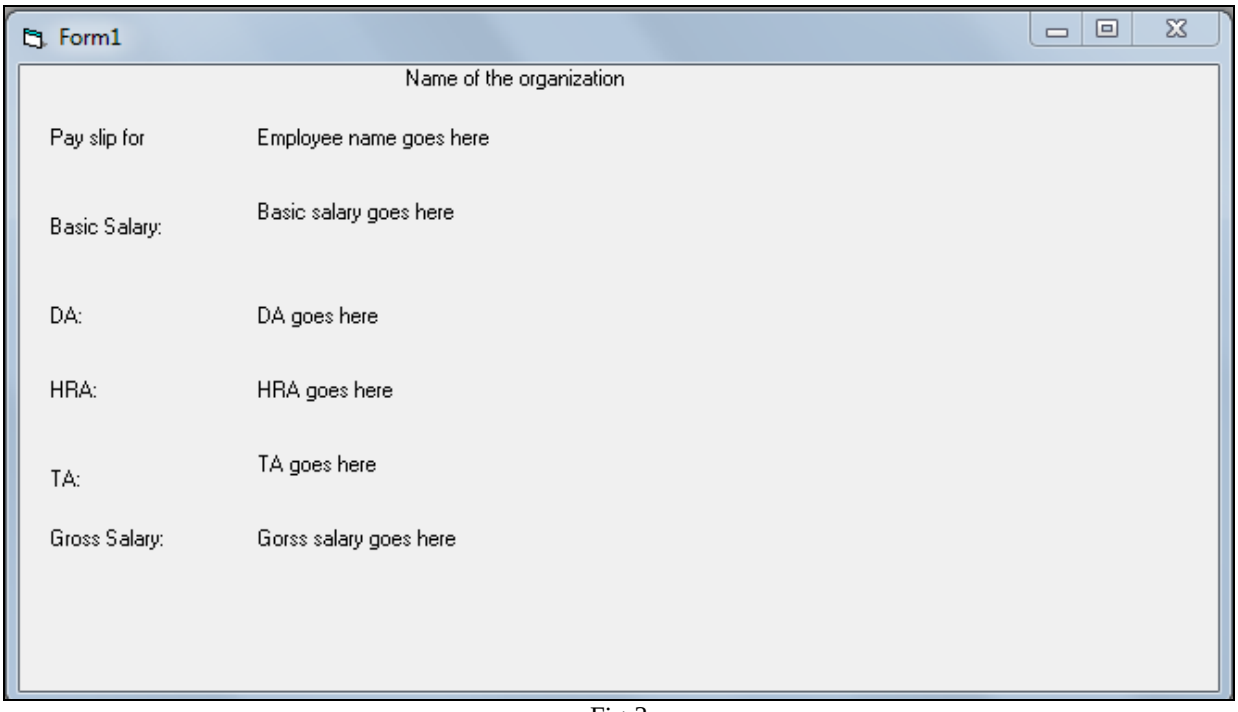
Form1
Name of the organization
Pay slip for
Employee name goes here
Basic Salary:
Basic salary goes here
DA:
DA goes here
HRA:
HRA goes here
TA:
TA goes here
Gross Salary:
Gorss salary goes here

Fig-3

2. In an examination there are 5 subjects and the full marks in each subject is 100. The marks are summed up and a student gets a division as per the following rules:

    - Percentage above or equal to 60 – 1st division.
    - Percentage between 50 and 59 – 2nd division.
    - Percentage between 40 and 49 – 3rd division.
    - Percentage less than 40 – Fail.

    But, a student will be promoted if and only if he/she passes in at least three subjects.
    i) Design a form to give input the marks and student name
    ii) Generate a mark sheet for the student stating his/her division and whether he/she has been promoted or not

3. A certain grade of steel is graded according to the following conditions :

    - Hardness must be greater than 50
    - Carbon content must be less than 0.7
    - Tensile strength must be greater than 5600.

    The grades are as follows:

    - Grade is 10 if all three conditions are met.
    - Grade is 9 if conditions (i) and (ii) are met.
    - Grade is 8 if conditions (ii) and (iii) are met.
    - Grade is 7 if conditions (i) and (iii) are met.
    - Grade is 6 if one condition is met.
    - Grade is 5 if none of the conditions are met.

    Design a proper User Interface (UI) and write a program, which will require the user to give values of hardness, carbon content and tensile strength of the steel under consideration and output the grade of the steel.

    [Note: For problem 2 and 3 use the concept of form design and event handling that you have learnt in problem 1]

Project

The calculator is a very useful device in everyday life. Like all other operating system Windows has one software version of it. Your task is to create your own custom calculator that will perform all the functions similar to normal calculator except some decimal operations. The specification of the calculator is given below –

- It can accept only 12 digits including decimal point.
- It will show any decimal number rounding up to three decimal places. For example, it will show the value of 22/7=3.143 instead of 22/7=3.142857142857143.
- The calculator should be available in two modes 1. Standard mode and 2. Scientific mode (Refer, Fig-5 and Fig-6 respectively).
- User has to choose the mode from the screen as shown in Fig-4.

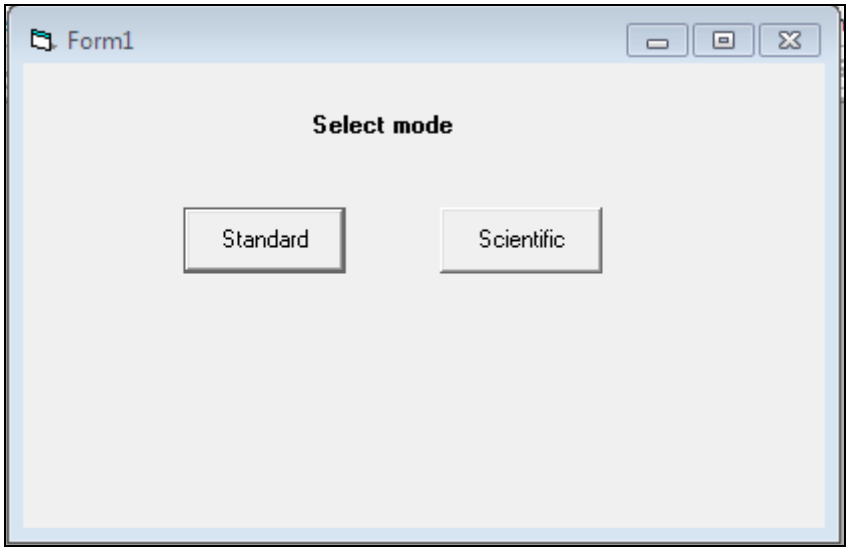

Fig-4

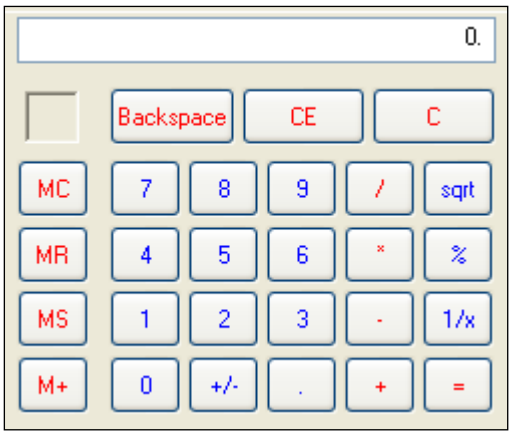

Fig-5

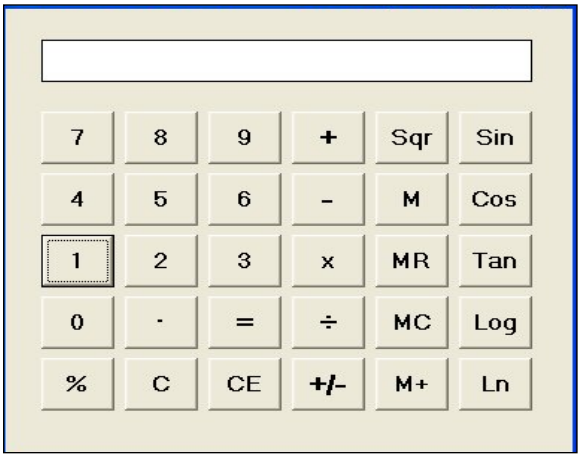

Fig-6

Write the code for different buttons in the specific block as shown below:

```
Private Sub CmdSin_Click()
'For the Sin button enter the code here

End Sub

Private Sub CmdCos_Click()
'For the Cos button enter the code here

End Sub
```

```
Private Sub CmdTan_Click()
'For the Tan button enter the code here

End Sub

Private Sub CmdLn_Click()
'For the Ln button enter the code here

End Sub

Private Sub CmdLog_Click()
'For the Log button enter the code here

End Sub
```

Similarly, write the code for the other buttons in their corresponding **Click** event.

Design the User Interface (UI) and write the logic to meet the above requirement. Also create a portable .exe file so that You can distribute your software.

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 2

Topics:

- Understanding the concept of Message Box and Input Box
- Understanding Checkbox, Option Button

Assignments

1. Write a program to demonstrate the idea of the message box function.
   Also describe the various attributes of message box function with suitable code snippet.

2. Write a program to demonstrate the idea of the input box function. Input a character through input box function and determine whether it is vowel, consonant or special character.
3. Write a program to demonstrate the idea of the checkbox control. Input some string with a text box. Put three check boxes captioned as: - a. block letter, b. small letter, c. normal case. On the form. The string case will be changed after clicking the appropriate checkbox.
4. Write a program to demonstrate the concept of the option button control. Input some string with a text box. Put two check boxes captioned as: - a. bold font, b. normal font. On the form. The string font will be changed either in bold or in normal after clicking the option button.

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 3

Topics:

- Understanding the concept of Image Box and Picture Box
- Understanding the use of different graphical shapes

Assignments

1. Write a program to demonstrate the concept of the image box and the picture box. Display an image with image box and picture box both. Determine the difference between these two.

2. Create three option buttons with the name Inidia, Australia and England respectively. Show the images of cricket team jersey when the corresponding option button is selected.

3. Create a text box and a command button. You will type the name of an image in the text box. Then click on the button. The image typed in the text box will be displayed in an image box. Write a programme in VB to do this task.

4. Draw a rectangle shape with shape tool. Create 6 option buttons as follows: -

    - RECTANGLE.
    - SQUARE.
    - OVAL.
    - CIRCLE.
    - ROUNDED SQURE.
    - ROUNDED RECTANGLE.

    Write a program to change the shape after clicking each option button. For every shapes, the fill color, Border color, fill style must be changed

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 4

Topics:

- Understanding the concept of List Box and Combo Box
- Understanding the concept of Timer and Progress bar

Assignments

1. Create a ListBox with the following items –

    a. RECTANGLE
    b. SQUARE
    c. OVAL
    d. CIRCLE

    Write a programme in VB6 to so that when an item is selected from the list box corresponding shape will be displayed on the form. Initially no shape will be displayed.

2. Create a ComboBox containing the following country names –
    a. India
    b. England
    c. USA
    d. Bangladesh

    Write a programme in VB6 so that when a particular country is selected from the ComboBox its national flag will be displayed in the screen.

3. Create a splash screen application using timer and progress bar. The idea is you have to create two form in VB6. When progress bar will reach its Max value then first form will be closed and the second form will open.

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 5

Topics:

- Understanding the concept of Drive, Directory and File list box
- Application of the above list boxes

Assignments

1. Implement the drive list box, dir list box and file list box control in a VB form. For every changes in the name of the drives, the name of the directories must be changed. And by selecting every directory, the list of files must be viewed in the file list box. When you click on the each and every file in the file list box, the file name will be displayed through a message box with the information style. Write this program with suitable VB code snippet.

2. Create an application in VB6 so that user can choose a .jpeg/.jpg image from hard disk and able to view that.

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 6

Topics:

- Understanding the concept of Common dialog boxes and its appplication
- Understanding the use of Menu bar

Assignments

1. Create a traffic signaling system using timer in VB6.
2. Load an image file in your VB form by clicking a "Load Image" button and show the name of the image file just below the loaded image. Create two more buttons in your form - "Change Colour" and "Change Font" which will be used to change the colour and font style of the image name. Use common dialog box to implement all these functionalities.
3. Create a VB menu. The menu will contain two main menus: - FILE AND HELP. Under the FILE menu these will be situated: - NEW, OPEN, SAVE, SAVE AS, PRINT, EXIT. Under the HELP menu there will be a sub menu named as ABOUT US. Every option must have a short cut key with a suitable letter. Every submenu must be clickable. When you click the NEW, a new form will be created with a label: - "THIS IS NEW FORM". When you click OPEN, a dialog box will be opened and select an image file from that dialog box and display that image in a picture box on your default form. When you will click the SAVE & SAVE AS, suitable message box will be opened. When you will click the PRINT option, you will be able to change the background color of a form with a system palette. After clicking EXIT, the application will be closed. After clicking on ABOUT US a message box will be displayed with your details in a new line.

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 7

Topics:

- Understanding the concept of File handling

Assignments

1. Display all records of a file with a VB application.
2. Insert a record in a file. After the insert, the file will contain only the new record.
3. Insert some in a file. The new records are inserted after some previous data.
4. Create a vb form. The form will contain three text boxes captioned with NAME, DEPARTMENT, ROLL, and MOBILE NO. Insert the desired value to every text boxes and select the desired file where you will save these values.

INSTITUTE OF ENGINEERING & MANAGEMENT
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SOFTWARE TOOLS (CS 492)
2ND YEAR 2ND SEMESTER

Week 8

Topics:

- Understanding the concept of Multiple Document Interface (MDI) in VB6
- Understanding database connectivity using ADODC and ADODB in VB6

Assignments

1. Create multiple document interfaces with VB
2. Create a table named “Student” in MS Access DataBase as follows -

Roll_No	Name	Department
1	Rahul Bose	CSE
2	Rohit Ghosh	IT
3	Rajib Mitra	ECE

Now write a VB6 application to fetch the record where “Department=IT” and display all the fields in a form in proper manner.