**Lab Manual**

**Advanced Pr II (VB.Net)**

**IT-412**

1. **Control Basics**
2. **Piggy Bank**: Write a program to determine the total amount of money in a piggy bank.  Have the user enter the number of pennies, nickels, dimes, and quarters.  Use those quantities to determine the total amount of money in the bank.
3. **Shipping Charge Calculation**: A local shipping company needs a program to calculate the shipping charges for packages brought in by the customers.  The shipping charge is 15 cents per ounce.  The input to the program is how much the package weighs in pounds and ounces (two separate inputs - for example, 8 pounds, then 6 ounces).  The output is the weight of the package in total ounces and the cost of shipping the package
4. **Car Rental Calc w/ DateDiff Demo**: The Edsel Car Rental Company rents Edsels for $35 per day plus 10 cents a mile.  Write a program for the rental company so that the clerk can enter the date that the car was rented, the date that the car was returned, the mileage when the car was rented, and the mileage when the car was returned.  Calculate the total charges and display the results.

Note: Use the **DateDiff** function to determine the number of days that the car was rented.

1. **Find Largest Number**: Write a program that finds the largest of a collection of positive numbers input by the user.  The user should be prompted to provide numbers until –1 is entered.  At that time, the largest number should be displayed.
2. **Palindrome**: Write a program that determines whether or not a word or phrase input by the user is a palindrome or not.
3. **Using Timer Control**
   1. Write a program that writes messages and a counter is incremented to a multi-line textbox whenever timer tick event is fired. Create the Start and stop buttons to on/off the timer, reset button to return the program to its initial state.
   2. Write a program to make an object on a screen appear to blink using timer control.
   3. Create a program that implements the Digital clock.
   4. Create a program that implements a Stop Watch.
   5. Create a program that implements a Digital Dice.
4. **Menu Procedures**

Consider adding keyboard shortcuts to the menu commands.

1. **Piecework Pay**: Write a project that will input the number of pieces and calculate the pay for multiple employees. It also must display a summary of the total number of pieces, total pay, and the average pay for all employees.

Menu:

File Edit Help

Calculate Pay Clear About

Summary \_\_\_\_\_

Exit Font

Color

Piecework workers are paid by the piece. Workers who produce a greater quantity of output may be paid at a higher rate.

1. The local library has a summer reading program to encourage reading. The staff keeps a chart with readers’ names and bonus points earned for the number of books read. Create a project using a menu and a function procedure that will determine the bonus points.

Menu:

File Edit Help

Points Clear About

Summary \_\_\_\_\_

Exit Font

Color

The first 3 books are worth 10 points each. The next 3 books are worth 10 points each. All books over six are worth 20 points each.

1. **Account Programming**: Checking account programming using menu and function procedures.

Menu:

File Edit Help

Transaction Clear About

Summary \_\_\_\_\_

Exit Font

Color

Form: Use Radio buttons to indicate the type of transaction: deposit, check, or service charge. Use a text box to allow the user to enter the amount of the transaction. Display the balance in label.

1. **The Flag Viewer**: Use a menu which includes check marks next to the name of the currently selected country and next to the selected display options.

Menu:

File Edit Display Help

Exit United States Title About

Canada Country Name

Japan Programmer

Mexico

1. **Array**
   1. Write a program to take input array from the user and sort the array in ascending order.
   2. Write a program to take input array from the user and sort the array in descending order.
   3. Write a program to take input array from the user and a number to be searched and output the index of the element to be searched.
   4. Write a program to take input array from the user and reverse the array.
   5. Write a program to take input array from the user and find the minimum and the maximum element in the array.
2. **Some Applications using VB**
   1. **Basic Notepad**: Create a basic text editor that allows user to create, save and print plain text file.
   2. **Notepad 2**: Add ‘replace’ function with the ‘find’.
   3. **Notepad 3**: Add ‘Word wrap’ in the basic notepad.
   4. **WordPad**: Use many of the Rich Textbox’s features and also incorporates the use of **menus**, **toolbars**, **dialogs**, and the **status bar**.
3. **File Handling**
4. Create a program that contains a form where user enters the book sale information such as title, quantity, price etc. and the corresponding information is saved to a file. Include the menu option to save the record, retrieve the record one-by-one using a “Next” Button and to clear the record.
5. Create a program that contains a form where user enters the vehicle sale information such as vehicleid, mileage, price etc. and the corresponding information is saved to a file. Include the menu option to save the record, retrieve the record one-by-one using a “Next” Button and to clear the record.
6. Create a program that contains a form where user enters the customer information such as customerid, name, address etc. and the corresponding information is saved to a file. Include the menu option to save the record, retrieve the record one-by-one using a “Next” Button and to clear the record.
7. Create a program that contains a form where user enters the student information such as name, rollno, CGPA etc. and the corresponding information is saved to a file. Include the menu option to save the record, retrieve the record one-by-one using a “Next” Button and to clear the record.
8. Create a program that contains a form where user enters the product sales information such as ProductID, Description, MfgID, Unit, Cost, LastOrderDate, LastOrderQuantity and the corresponding information is saved to a file. Include the menu option to save the record, retrieve the record one-by-one using a “Next” Button and to clear the record.

1. **Create an EXCEL application on VB.NET for**:
2. Address Book
3. Student Marks Record
4. Employee details
5. Item Stock Record
6. Item Sale Record
7. **Using VB.NET, develop front end for following application. Create a backend database with corresponding information.**
8. Contact management program
9. Patient Information Management Program
10. Event Registration system
11. Hotel room booking form
12. Student registration form
13. **Graphics and Animations.**
14. Write a program that draws graphics of snowman using the Graphics methods and generates snowflakes using the Random.Next method.
15. Write a program that draws graphics of random dots in your choice of colors using the Graphics methods.
16. Create a project that will draw a pie chart showing the relative amount of sales for Books, Periodicals, and Newspapers for a bookstore. Include text boxes for the user to enter the sales amount for Books, Periodicals, and Newspapers. Include buttons for Display Chart, Clear, and Exit. Calculate the values for the pie chart in the Display Chart button’s Click event procedure and use a Refresh method to force the form’s Paint event to occur. In the form’s Paint event procedure, use the CreateGraphics.FillPie method to draw each of the pie segments.
17. Create a project that will draw a pie chart showing the relative amount of sales for balls, bats, and racquets for a sports shop. Include text boxes for the user to enter the sales amount for balls, bats, and racquets. Include buttons for Display Chart, Clear, and Exit. Calculate the values for the pie chart in the Display Chart button’s Click event procedure and use a Refresh method to force the form’s Paint event to occur. In the form’s Paint event procedure, use the CreateGraphics.FillPie method to draw each of the pie segments.
18. Create a project that will draw a pie chart showing the relative amount of sales for Pizzas, Burgers, and Cold Drinks for a restaurant. Include text boxes for the user to enter the sales amount for Pizzas, Burgers, and Cold Drinks .Include buttons for Display Chart, Clear, and Exit. Calculate the values for the pie chart in the Display Chart button’s Click event procedure and use a Refresh method to force the form’s Paint event to occur. In the form’s Paint event procedure, use the CreateGraphics.FillPie method to draw each of the pie segments.
19. **Drag and Drop Projects**
20. An image of a car is dragged across the form and dropped on an image of a garbage. Describe the events that occur as operation takes place.
21. An image of toy is placed dragged across the form and place it in toy box
22. A letter is drag across a form and placed in a trash. Describe the events that take place.
23. Create a small application that allows the user to drag the airplane icon into the hangar.
24. Create a project for card-suit guessing game. The user will drag the images to the boxes along lower edge of form. When correct image is placed in a box, make the image remain there. When all four images are in correct location, display a message congratulating user. The reset button replace the suit images at top of form and clear out lower boxes

**Reference Books:**

1. Jeffrey R. Shapiro, Visual Basic .NET The Complete Reference, McGraw-Hill/​Osborne, 2002.
2. \*Julia Case Bradley, Anita Millspaugh, Programming in Visual Basic, McGraw-Hill/Irwin, 2010.
3. Steven Holzner, Visual Basic .NET Programming Black Book, Dreamtech Press, 2007.
4. Francesco Balena, Programming Microsoft Visual Basic.NET (Core Reference), Microsoft Press, 2002.
5. Anne Prince, Murach's Beginning Visual Basic .NET, Mike Murach & Associates, 2002.