Q-What is variable? Write vb.net code to create three integer variables.
A-A variable is a named memory location used to store data in a computer program. The value of a variable can be changed during the execution of the program.

```
Dim num1 As Integer = 10
Dim num2 As Integer = 20
Dim num3 As Integer = num1 + num2

Console.WriteLine("num1: " & num1)
Console.WriteLine("num2: " & num2)
Console.WriteLine("num3: " & num3)
```

Q-what is MSIL?
A-MSIL (Microsoft Intermediate Language) code is a low-level, CPU-independent binary code that is generated by the .NET compiler when it compiles a .NET language source code file such as C#, VB.NET, or F#. MSIL code is also known as Common Intermediate Language (CIL).
.When a .NET program is compiled, the source code is first compiled into MSIL code, which is then converted into native machine code by the Just-In-Time (JIT) compiler at runtime.
MSIL code is represented in a textual format called IL assembly language or IL code.

Q-Define radio button. Differentiate radio button and check box
A-A radio button is a graphical user interface (GUI) element that allows users to select one option from a list of mutually exclusive options. Radio buttons are typically represented as small circles or dots that are grouped together with a label next to each option.
difference between radio buttons and checkboxes is that radio buttons allow only one option to be selected at a time, whereas checkboxes allow multiple options to be selected independently.

Q-What is Rich Textbox? Write any three properties of Rich textbox..
A-A Rich Textbox is a graphical user interface (GUI) element that allows users to input and display formatted text, including font styles, colors, images, and other formatting features.
three properties of Rich Textbox:
1-Text:
2-SelectionFont: This property is used to get or set the font of the currently selected text in the Rich Textbox control
3-ReadOnly: This property is used to set whether the Rich Textbox control can be edited by the user. When this property is set to True, the user cannot modify the text in the control.

Q-Write syntax to create function in vb.net. Explain all the components

```
A-Public Function AddNumbers(num1 As Integer, num2 As Integer) As Integer
   Dim sum As Integer = num1 + num2
   Return sum
End Function
```

Q-Write a program in vb.net to print prime numbers using while loop

```
A-Module Module1
    Sub Main()
        Dim number As Integer = 2
        While number <= 100
            Dim isPrime As Boolean = True
            Dim i As Integer = 2
            While i <= Math.Sqrt(number)
                If number Mod i = 0 Then
                    isPrime = False
                    Exit While
                End If
                i += 1
            End While
            If isPrime Then
                Console.WriteLine(number)
            End If
            number += 1
        End While
        Console.ReadLine()
    End Sub
End Module
```

Q-What is exception? Explain try, catch and finally keyword
A-An exception is an error or unexpected behavior that occurs during the execution of a program. In VB.NET, an exception is an object that represents an error condition, such as a divide-by-zero error, an invalid argument, or a file not found error.
1-Try
2-catch
3-Finally

```
Try
    ' Code that may throw an exception
Catch ex As Exception
    ' Code to handle the exception
Finally
    ' Code to execute regardless of whether an exception occurred or not
End Try
```

Q-Explain the concept of dynamic array with suitable example
A-
A dynamic array is an array that can grow or shrink in size during runtime. Unlike a static array, which has a fixed size that is determined at compile time, a dynamic array can be resized as needed to accommodate new elements or remove existing elements
an example of how to add elements to a dynamic array:

```
Dim numbers() As Integer ' Declare an empty dynamic array
ReDim numbers(4) ' Resize the array to have 5 elements

For i As Integer = 0 To 4
    numbers(i) = i + 1 ' Add elements to the array
Next
```

Q-Define any three keyboard events
A-1-KeyDown: This event is triggered when a key on the keyboard is pressed down. You can use this event to perform an action when a specific key is pressed. ex: enter key
2-KeyUp: This event is triggered when a key on the keyboard is released. You can use this event to perform an action when a specific key is released. ex:space key
3-KeyPress: This event is triggered when a character is typed on the keyboard. You can use this event to validate input, or to perform an action when a specific character is typed.

Q-Explain .net architecture with suitable diagram.
A- .NET architecture is a software framework developed by Microsoft that allows developers to create and run applications on various platforms, including Windows, Linux, and macOS
1-Common Language Runtime (CLR): This is the core component of the .NET architecture. It provides a managed environment for executing .NET

applications, including memory management, garbage collection, security, and exception handling. The CLR also includes a Just-In-Time (JIT) compiler, which compiles the .NET code into machine code that can be executed by the operating system.
2-.NET Framework Class Library (FCL): This is a collection of reusable classes, interfaces, and value types that developers can use to build .NET applications. The FCL provides a wide range of functionality, including file input/output, networking, database access, and user interface design.
3-Development tools: .NET developers typically use Visual Studio, an integrated development environment (IDE) that provides a range of tools for building .NET applications. Visual Studio includes a code editor, a debugger, and a designer for creating user interfaces. Developers can also use command-line tools, such as the .NET Core CLI, to build and deploy .NET applications.
4-Application code: This is the code that developers write to build .NET applications. The code can be written in several languages, including C#, Visual Basic .NET (VB.NET), and F#.

Q-Write a program in vb.net to calculate factorial of any number using recursion.

```
A-Module Module1
    Sub Main()
        Dim num As Integer = 5 ' Change this to the number you want to
calculate the factorial of
        Dim result As Integer = Factorial(num)
        Console.WriteLine("Factorial of " & num & " is " & result)
        Console.ReadLine()
    End Sub

    Function Factorial(ByVal num As Integer) As Integer
        If num <= 1 Then
            Return 1
        Else
            Return num * Factorial(num - 1)
        End If
    End Function
End Module
```

Q-) What is vb.net menu control? Write steps to create menu.
A-1-Open Visual Studio and create a new VB.NET Windows Forms Application.
2-Open the Toolbox and drag a MainMenu control onto the form.
3-Click on the MainMenu control to select it.
4-In the Properties window, click on the "Items" property to expand it.
5-Click on the "..." button next to the "Items" property to open the Menu Editor.
6-In the Menu Editor, click on the "Add Item" button to add a new menu item.
7-In the "Caption" field, enter the text that you want to display for the menu item (e.g. "File").
8-In the "Name" field, enter a name for the menu item (e.g. "mnuFile").
9-Repeat steps 6-8 to add additional menu items (e.g. "New", "Open", "Save", etc.).
10-To create a submenu, select a menu item and click on the "Add Item" button. The new menu item will be added as a submenu of the selected item.
11-Use the "Up" and "Down" buttons to rearrange the menu items and submenus.
12-Click on the "OK" button to close the Menu Editor.
13-Run the program and click on the menu items to test the menu.

Q-What do you mean by sub procedure? Explain call by value method with suitable example.
A-A Sub Procedure, also known as a subroutine, is a block of code in VB.NET that performs a specific task. A Sub Procedure does not return a value and can optionally accept input parameters. It is used to break down a large program into smaller
, parameters can be passed to a Sub Procedure using either "Call by Value" or "Call by Reference" method.
ex of call by value:

```
Module Module1
    Sub Main()
        Dim num As Integer = 5
        Console.WriteLine("The value of num before calling the Sub
Procedure is " & num)
        Increment(num)
        Console.WriteLine("The value of num after calling the Sub
Procedure is " & num)
        Console.ReadLine()
    End Sub

    Sub Increment(ByVal n As Integer)
        n += 1
        Console.WriteLine("The value of n inside the Sub Procedure is " &
n)
    End Sub
End Module
```

Q-) Explain any five inbuilt mathematical functions of VB.NET with relevant syntax and example.
A-1-Abs:
2-Sqrt
3-Round
4-Sin
5-Log

```
Module Module1
    Sub Main()
        Dim num1 As Integer = -10
        Dim num2 As Double = 16
        Dim num3 As Double = 3.14159
        Dim num4 As Double = Math.PI / 2
        Dim num5 As Double = 10

        Console.WriteLine("The absolute value of {0} is {1}", num1,
Abs(num1))
        Console.WriteLine("The square root of {0} is {1}", num2,
Sqrt(num2))
        Console.WriteLine("Rounded value of {0} is {1}", num3,
Round(num3, 2))
        Console.WriteLine("The sine of {0} radians is {1}", num4,
Sin(num4))
        Console.WriteLine("The natural logarithm of {0} is {1}", num5,
Log(num5))

        Console.ReadLine()
    End Sub
End Module
```

Q-What is active data object? Explain its architecture.

A-Active Data Objects (ADO) is a Microsoft technology for accessing data from different types of databases, including SQL Server, Oracle, and MySQL. ADO is a part of the Microsoft Data Access Components (MDAC) technology stack and provides a consistent programming model for working with different data sources.

The architecture of ADO is based on a set of objects and interfaces that work together to access and manipulate data. .

components:

1-Connection Object: This object represents a connection to a data source, such as a database.It provides methods for opening and closing the connection, and properties for configuring the connection settings.

2-Command Object: This object represents a SQL statement or a stored procedure that can be executed on the data source. It provides methods for setting the command text, parameters, and type of command to be executed.

3-Recordset Object: This object represents a set of records from a table or a result set from a query. It provides methods for navigating through the records, updating and deleting records, and retrieving field values.

4-Field Object: This object represents a single field in a recordset. It provides properties for retrieving the field value, its data type, and other metadata.

Q-What do you mean by dialogue box? Explain any three types of dialogue boxes

A-A dialog box is a graphical user interface element that displays a message, prompt, or set of options to the user, and requires the user to respond before continuing with the task at hand.

Dialog boxes are commonly used in software applications to obtain user input, display messages, or confirm an action.

three common types:

1-Message Box: A message box is a simple dialog box that displays a message to the user, along with one or more buttons to choose from, such as "OK", "Cancel", or "Yes/No"

2-File Dialog Box: A file dialog box is used to let the user select a file from the system. It allows the user to browse files and folders, choose a file, and specify how the file should be opened or saved

3-Color Dialog Box: A color dialog box is used to let the user choose a color from a palette of available colors. It displays a set of color options, and allows the user to select a color by clicking on it.

Q-Write and explain any five vb.net string functions

A-VB.NET provides a rich set of string functions that allow developers to work with text data efficiently.

1-Substring:

```
string.Substring(startIndex, length)
```

2-Replace:

```
string.Replace(oldValue, newValue)
```

3-Trim:

```
string.Trim()
```

4-ToUpper/ToLower:

```
string.ToUpper()
string.ToLower()
```

5-Split:The Split function is used to split a string into an array of substrings based on a delimiter

```
string.Split(delimiter)
```

Q-What is select case? Explain with the help of suitable example.

A-Select Case expression

```
    Case value1
        ' code block to execute when expression equals value1
    Case value2
        ' code block to execute when expression equals value2
    ...
    Case Else
        ' code block to execute when expression does not match any case
End Select
```

ex:

```
Dim score As Integer = 85
Dim grade As String

Select Case score
    Case Is >= 90
        grade = "A"
    Case Is >= 80
        grade = "B"
    Case Is >= 70
        grade = "C"
    Case Is >= 60
        grade = "D"
    Case Else
        grade = "F"
End Select

Console.WriteLine("Your grade is: " & grade) ' output: "Your grade is: B"
```

Q-What is MessageBox control? Explain how to create message box with example

A-a MessageBox is a predefined dialog box that displays a message to the user and optionally provides a set of buttons for the user to choose from. It is a useful tool for displaying important information or prompting the user for input.

```
MessageBox.Show("Hello, World!")
```

exam:

```
' Display a MessageBox with a custom title and icon
MessageBox.Show("Error: Unable to connect to server.", "Connection
Error", MessageBoxButtons.OK, MessageBoxIcon.Error)

' Display a MessageBox with Yes and No buttons
Dim result As DialogResult = MessageBox.Show("Are you sure you want to
delete this file?", "Delete File", MessageBoxButtons.YesNo)
If result = DialogResult.Yes Then
    ' code to delete file
End If
```

Q-Explain various steps of adding a connection using server explorer

A-1-Open Visual Studio and navigate to the "Server Explorer" window, which can be accessed from the "View" menu or by pressing the "Ctrl+Alt+S" keyboard shortcut.

2-In the "Server Explorer" window, click on the "Connect to Database" button, which looks like a small database icon with a green "+" sign.

3-In the "Add Connection" dialog box that appears, select the data source type that you want to connect to, such as "Microsoft SQL Server" or "Oracle Database".

4-Enter the connection details, such as the server name, database name, and login credentials. You can also specify additional options, such as whether to save the password and whether to use integrated security.

5-Click on the "Test Connection" button to verify that the connection works. If the connection is successful, you will see a message indicating that the test was successful.

6-Click on the "OK" button to save the connection and close the dialog box. The new connection will now appear in the "Server Explorer" window under the appropriate data source type.

Q-short note:
(i) Label Control:
A Label control in VB.NET is a non-editable control used to display text on a form or container. It is used to provide information or instruction to the user, such as a field label or a description of a button's purpose.
(ii) TextBox Control:
A TextBox control in VB.NET is an editable control that allows the user to enter and edit text. It is commonly used for data entry and for displaying data that can be edited, such as a user's name or address
(iii) ComboBox Control:
A ComboBox control in VB.NET is a combination of a TextBox control and a ListBox control. It is used to provide a list of options for the user to select from, while also allowing the user to type in a value if the desired option is not in the list

Q-) Explain any Four Form Properties?
A-1-Text:
2-BackColor:
3-Width and Height:
4-MaximizeBox:

Q-Write a VB.NET code to create and use Object?

```
A-Public Class Car
    Public Make As String
    Public Model As String
    Public Year As Integer

    Public Sub Drive()
        Console.WriteLine("Driving the {0} {1} ({2})", Year, Make, Model)
    End Sub
End Class

Module Module1
    Sub Main()
        ' Create a new instance of the Car class
        Dim myCar As New Car()

        ' Set the properties of the car
        myCar.Make = "Toyota"
        myCar.Model = "Camry"
        myCar.Year = 2021

        ' Call the Drive method of the car
        myCar.Drive()

        ' Wait for user input before exiting
        Console.ReadLine()
    End Sub
End Module
```

Q-Using a relevant example explain VB.NET Method and event?
A-Method:

```
Public Class Calculator
    Public Function Add(ByVal num1 As Integer, ByVal num2 As Integer) As
Integer
```

```
        Return num1 + num2
    End Function
End Class

Module Module1
    Sub Main()
        ' Create a new instance of the Calculator class
        Dim myCalculator As New Calculator()

        ' Call the Add method to add two numbers
        Dim result As Integer = myCalculator.Add(5, 7)

        ' Output the result to the console
        Console.WriteLine("5 + 7 = {0}", result)

        ' Wait for user input before exiting
        Console.ReadLine()
    End Sub
End Module
```

Event:

```
Public Class Button
    Public Event Click(ByVal sender As Object, ByVal e As EventArgs)

    Public Sub OnClick()
        RaiseEvent Click(Me, EventArgs.Empty)
    End Sub
End Class

Module Module1
    Sub Main()
        ' Create a new instance of the Button class
        Dim myButton As New Button()

        ' Add an event handler for the Click event
        AddHandler myButton.Click, AddressOf HandleClick

        ' Call the OnClick method to raise the Click event
        myButton.OnClick()

        ' Wait for user input before exiting
        Console.ReadLine()
    End Sub

    Sub HandleClick(ByVal sender As Object, ByVal e As EventArgs)
        Console.WriteLine("Button clicked!")
    End Sub
End Module
```

Q-Write VB.NET code on a Button for adding and removing items in the Combo Box at runtime?

```
A-Public Class Form1
    Private Sub addButton_Click(sender As Object, e As EventArgs) Handles
addButton.Click
        ' Add a new item to the combo box with the text entered in the
text box
        comboBox.Items.Add(textBox.Text)

        ' Clear the text box
        textBox.Clear()
    End Sub

    Private Sub removeButton_Click(sender As Object, e As EventArgs)
Handles removeButton.Click
        ' Remove the selected item from the combo box, if one is selected
        If comboBox.SelectedIndex <> -1 Then
            comboBox.Items.RemoveAt(comboBox.SelectedIndex)
        End If
    End Sub
End Class
```

Q-four Operators used in VB.NET

A-1-Arithmetic Operators:

```
Dim a As Integer = 10
Dim b As Integer = 5
Dim sum As Integer = a + b ' sum equals 15
Dim difference As Integer = a - b ' difference equals 5
Dim product As Integer = a * b ' product equals 50
Dim quotient As Integer = a / b ' quotient equals 2
Dim remainder As Integer = a Mod b ' remainder equals 0
```

2-Comparison Operators:

```
Dim a As Integer = 10
Dim b As Integer = 5
Dim isEqual As Boolean = (a = b) ' isEqual equals False
Dim isNotEqual As Boolean = (a <> b) ' isNotEqual equals True
Dim isGreater As Boolean = (a > b) ' isGreater equals True
Dim isLessOrEqual As Boolean = (a <= b) ' isLessOrEqual equals False
```

3-Logical Operators:

```
Dim a As Boolean = True
Dim b As Boolean = False
Dim result1 As Boolean = (a And b) ' result1 equals False
Dim result2 As Boolean = (a Or b) ' result2 equals True
Dim result3 As Boolean = Not a ' result3 equals False
Dim result4 As Boolean = (a Xor b) ' result4 equals True
```

4-Concatenation Operators:

```
Dim firstName As String = "John"
Dim lastName As String = "Doe"
Dim fullName1 As String = firstName & " " & lastName ' fullName1 equals
"John Doe"
Dim fullName2 As String = firstName + " " + lastName ' fullName2 equals
"John Doe"
```

Q-four properties of Color Dialog Control

A-1-Color: allows you to get or set the currently selected color in the Color Dialog.

```
' Set the initial color for the Color Dialog
colorDialog.Color = Color.Red

' Get the selected color from the Color Dialog
Dim selectedColor As Color = colorDialog.Color
```

2-FullOpen: This property determines whether the Color Dialog will be displayed in full or simple mode

```
' Display the Color Dialog in full mode
colorDialog.FullOpen = True
```

```
' Display the Color Dialog in simple mode
colorDialog.FullOpen = False
```

3-AllowFullOpen:

```
' Allow the user to switch to full mode
colorDialog.AllowFullOpen = True

' Prevent the user from switching to full mode
colorDialog.AllowFullOpen = False
```

4-CustomColors:allows you to get or set an array of custom colors that will be displayed in the Color Dialog.

```
' Set custom colors for the Color Dialog
Dim customColors() As Color = {Color.Blue, Color.Green, Color.Yellow}
colorDialog.CustomColors = customColors

' Get the custom colors from the Color Dialog
Dim customColors() As Color = colorDialog.CustomColors
```

Q-VB.NET Code to change a Font of selected Word using Font Dialog?

```
A-' Display the Font Dialog control and get the selected font
Dim fontDialog As New FontDialog()
If fontDialog.ShowDialog() = DialogResult.OK Then
    Dim selectedFont As Font = fontDialog.Font

    ' Get the selected text from a text box or rich text box
    Dim selectedText As String = TextBox1.SelectedText

    ' Replace the selected text with the same text but with the new font
    If Not String.IsNullOrEmpty(selectedText) Then
        Dim selectionStart As Integer = TextBox1.SelectionStart
        Dim selectionLength As Integer = TextBox1.SelectionLength
        TextBox1.Text = TextBox1.Text.Remove(selectionStart,
selectionLength)
        TextBox1.SelectionFont = selectedFont
        TextBox1.SelectionStart = selectionStart
        TextBox1.SelectionLength = selectedText.Length
    End If
End If
```

Q-using a relevant example, explain how Exception handling is implemented in VB.NET?A-Try

```
    ' Code that may cause an exception
    Dim result As Integer = 10 / 0
Catch ex As DivideByZeroException
    ' Exception handler for DivideByZeroException
    MessageBox.Show("Error: Attempted to divide by zero.")
Catch ex As Exception
    ' Generic exception handler
    MessageBox.Show("Error: " & ex.Message)
Finally
    ' Code that will always execute, regardless of whether an exception
was thrown
    MessageBox.Show("Execution complete.")
End Try
```

Q-a relevant example explain how filter property is populated in open and Save Dialogs? What do you understand by filter index property?

A-how to set the Filter property in a Save Dialog:

```
Dim saveFileDialog As New SaveFileDialog()
```

```
saveFileDialog.Filter = "Text Files (*.txt)|*.txt|All Files (*.*)|*.*"
```

how to set the Filter Index property in a Save Dialog:

```
Dim saveFileDialog As New SaveFileDialog()
saveFileDialog.Filter = "Text Files (*.txt)|*.txt|All Files (*.*)|*.*"
saveFileDialog.FilterIndex = 1
```

Q-Using a relevant examples explain how call by value & Call
A-call by value:

```
Sub Main()
    Dim x As Integer = 10
    Console.WriteLine("Before: " & x)
    ChangeValue(x)
    Console.WriteLine("After: " & x)
End Sub

Sub ChangeValue(ByVal y As Integer)
    y = y + 5
End Sub
```

2-call by reference:

```
Sub Main()
    Dim x As Integer = 10
    Console.WriteLine("Before: " & x)
    ChangeValue(ByRef x)
    Console.WriteLine("After: " & x)
End Sub

Sub ChangeValue(ByRef y As Integer)
    y = y + 5
End Sub
```

Q- MDI form?
A-In VB.NET, MDI (Multiple Document Interface) forms are used to create a parent-child relationship between multiple forms in an application. An MDI form acts as the parent form, while other forms act as child forms that are displayed within the MDI form.

Q-various windows of VB.NET IDE?
A-1-Code Editor: This is the main window where developers write and edit their code.
2-Solution Explorer: This window displays the files and folders of the current project, as well as any references and resources used by the project.
3-Toolbox: This window displays a collection of controls and components that can be added to the design surface of a form or user control.
4-Properties Window: This window displays the properties of the currently selected object in the designer.
5-Form Designer: This is the visual design surface where developers can create and edit the layout of forms and user controls
6-Debugging Windows: These windows provide information about the running application during debugging, such as the call stack, breakpoints, and variable values.
7-Output Window: This window displays messages and status information during the build and run processes.
8-Task List: This window displays a list of tasks and comments that have been added to the code by the developer.

Q- various control structures used in VB.NET programming
A-1- if else

```
If x > 10 Then
    'Do something if x is greater than 10
Else
    'Do something else if x is less than or equal to 10
End If
```

2-for loop

```
For i As Integer = 1 To 10
    'Do something 10 times
Next
```

3-while:

```
While x < 100
    'Do something while x is less than 100
End While
```

4-Do/While loops:

```
Do
    'Do something at least once
Loop While x < 100
```

5-Select Case statements

```
Select Case x
    Case 1
        'Do something if x is 1
    Case 2
        'Do something else if x is 2
    Case Else
        'Do something if x is not 1 or 2
End Select
```

Q-Write a VB.NET code to search and select a word in a given string written on a Rich Text Box control

A-

```
Private Sub btnSearch_Click(sender As Object, e As EventArgs) Handles
btnSearch.Click
    ' Get the word to search for
    Dim searchWord As String = txtSearchWord.Text

    ' Search for the word in the text box
    Dim index As Integer = rtbText.Find(searchWord)

    ' If the word is found, select it
    If index >= 0 Then
        rtbText.Select(index, searchWord.Length)
    Else
        MessageBox.Show("Word not found.")
    End If
End Sub
```

Q-various steps for creating Pop Up Menus in VB.NET

A-1-Add a ContextMenuStrip control to your form:open the Toolbox and drag a ContextMenuStrip control onto your form

2-Add items to the menu:
Right-click on the ContextMenuStrip control and select "Edit Items". This will open the Items Collection Editor. Here you can add, edit, and remove items from the menu. Each item represents a command that the user can select from the menu.

3-Assign the ContextMenuStrip to the control:

Next, you need to assign the ContextMenuStrip to the control that you want the pop-up menu to appear for. To do this, select the control and go to the Properties window. Find the "ContextMenuStrip" property and select the ContextMenuStrip control that you added earlier.
4-Show the menu:
Finally, you need to show the menu when the user right-clicks on the control. To do this, handle the control's "MouseDown" event and check if the right mouse button was clicked. If it was, call the "Show" method of the ContextMenuStrip control, passing in the mouse position

Q-shortnote:
(i) Link Label:
The LinkLabel control in VB.NET is a clickable label that can be used to display hyperlinks or other interactive text.
(ii) Timer:
The Timer control in VB.NET is used to execute a block of code at specified intervals. It is often used for animations, automatic updates, and other time-based operations.
(iii) List Box:
The ListBox control in VB.NET is used to display a list of items that the user can select from. It can be used to present a list of options or to display a set of data that the user can select and manipulate.

Q-Five Properties of Crystal Report Viewer?A-

A-Crystal Report Viewer is a tool that is used to display Crystal Reports in VB.NET applications.

properties:

1-ReportSource - This property is used to set the report that should be displayed in the Crystal Report Viewer
2-Zoom This property is used to set the zoom level of the report. You can set this property to a value between 1 and 200 to specify the zoom percentage.
3-ShowPrintButton:.This property is used to show or hide the Print button on the Crystal Report Viewer control. If this property is set to True, the Print button will be displayed, and if it is set to False, the Print button will be hidden.
4-DisplayGroupTree -- This property is used to show or hide the group tree on the Crystal Report Viewer control. If this property is set to True, the group tree will be displayed, and if it is set to False, the group tree will be hidden.
5-ShowExportButton - This property is used to show or hide the Export button on the Crystal Report Viewer control. If this property is set to True, the Export button will be displayed, and if it is set to False, the Export button will be hidden.

Q-What is Class View Window? Explain with example in vb .net
A-In VB.NET, the Class View window is a feature of the integrated development environment (IDE) that provides a hierarchical representation of the classes, interfaces, structures, and other types defined in your project.
To access the Class View window in Visual Studio:

1-Open your VB.NET project in Visual Studio.
2-Go to the "View" menu at the top.
3-Select "Class View" from the dropdown menu.

Q-What is Print dialog box in vb .net? Explain

A- the Print Dialog Box is a common dialog box that allows users to specify printing options before sending a document or content to a printer.

```
Dim printDialog As New PrintDialog()

' Display the Print Dialog Box
If printDialog.ShowDialog() = DialogResult.OK Then
    ' User clicked the OK button in the Print Dialog Box

    ' Get the selected printer
    Dim selectedPrinter As String =
printDialog.PrinterSettings.PrinterName

    ' Get the number of copies
    Dim numberOfCopies As Integer = printDialog.PrinterSettings.Copies

    ' Get the page range (if specified)
    Dim pageRange As String =
printDialog.PrinterSettings.PrinterSettings.PrintRange.ToString()

    ' Get other print options as needed
    ' ...

    ' Perform the printing operation using the selected options
    ' ...
End If
```

Q-What is the purpose of Function statement in VB.NET?
A-
The purpose of the Function statement in VB.NET is to declare a function, which is a code block that performs a specific task and returns a value. Functions are used to encapsulate reusable pieces of code

```
[Modifiers] Function FunctionName([parameters]) As ReturnType
    ' Function body
    ' ...
    ' Return statement
    Return value
End Function
```

Q-what is JIT
A-
JIT stands for Just-In-Time, and in the context of .NET, it refers to Just-In-Time Compilation. JIT is a technique used by the .NET runtime to convert Intermediate Language (IL) code into machine code that can be executed by the computer's processor.
When you write code in a .NET language like C# or VB.NET, it is compiled into an intermediate representation called IL code or bytecode. IL code is platform-independent and cannot be executed directly by the computer's hardware. Instead, it needs to be translated into machine code specific to the underlying processor architecture.

Q-Design GUI and write code for the following VB.NET:
A-Design the GUI:

Open Visual Studio or any other VB.NET development environment.
Create a new Windows Forms Application project.
Drag and drop two TextBox controls onto the form to input the length and height.
Add a Button control to trigger the calculation.

Optionally, you can add a Label to provide instructions or labels for the TextBox controls.
Set control names and properties:

Set the Name property of the first TextBox control to "txtLength".
Set the Name property of the second TextBox control to "txtHeight".
Set the Name property of the Button control to "btnCalculate".
Set the Text property of the Button control to "Calculate Area".

(i) Add item to List box.
(ii) Delete selected item from List box

```
1-Private Sub btnAddItem_Click(sender As Object, e As EventArgs) Handles
btnAddItem.Click
    ' Get the text from the TextBox (if used)
    Dim newItem As String = txtNewItem.Text

    ' Add the item to the List Box
    lstItems.Items.Add(newItem)

    ' Clear the TextBox (if used)
    txtNewItem.Text = ""
End Sub
```

```
2-Private Sub btnDeleteItem_Click(sender As Object, e As EventArgs)
Handles btnDeleteItem.Click
    ' Check if an item is selected
    If lstItems.SelectedIndex <> -1 Then
        ' Remove the selected item from the List Box
        lstItems.Items.RemoveAt(lstItems.SelectedIndex)
    Else
        ' Display an error message if no item is selected
        MessageBox.Show("Please select an item to delete.")
    End If
End Sub
```

Q-Differentiate between Value type and Reference type.
A- The main difference between value types and reference types lies in how they are stored in memory and how they are passed around and accessed.

alue Types:

Value types store the actual value of the data they represent.
They are stored directly in memory locations called the stack.
Value types include primitive types (e.g., integers, floating-point numbers, booleans) and structures

Reference Types:

Reference types store a reference (or memory address) to the location where the actual data is stored.
They are stored in memory locations called the heap.
Reference types include classes, strings, and arrays.

Q-xplain any four Data type with example.
A-1-Integer (Int32):: Dim myNumber As Integer = 42
2-string::Dim myName As String = "John Doe"
3-Boolean:: Dim isTrue As Boolean = True
4-DateTime: Dim currentDate As DateTime = DateTime.Now

Q-(a) What is Toolbox?
A-
In the context of .NET development, the Toolbox refers to a visual component in integrated development environments (IDEs) such as Visual Studio. The Toolbox provides a convenient way to access and use pre-built controls, components, and other elements for building graphical user interfaces (GUIs) in your application.

Q-What is Menu bar? What are the steps to create Menu bar? Explain.
A-A menu bar is a graphical user interface (GUI) element that typically appears at the top of a window or application. It consists of a horizontal strip containing various menu items, which are organized into menus.
(ab jada n jano bht theory h)

Q-Design GUI and write code for the following in VB.NET:
? Input a length and height in Text box.
? Calculate area of Rectangle.
? Display result in Message box.

```
A-Private Sub btnCalculate_Click(sender As Object, e As EventArgs)
Handles btnCalculate.Click
    ' Read the length and height from the TextBox controls
    Dim length As Double = Double.Parse(txtLength.Text)
    Dim height As Double = Double.Parse(txtHeight.Text)

    ' Calculate the area of the rectangle
    Dim area As Double = length * height

    ' Display the result in a MessageBox
    MessageBox.Show("The area of the rectangle is: " & area.ToString())
End Sub
```

Q- write code in VB.NET:
? Input two numbers in two Text box.
? Display Prime number among them in Message box.

```
A-Private Sub btnFindPrime_Click(sender As Object, e As EventArgs)
Handles btnFindPrime.Click
    ' Read the two numbers from the TextBox controls
    Dim number1 As Integer = Integer.Parse(txtNumber1.Text)
    Dim number2 As Integer = Integer.Parse(txtNumber2.Text)

    ' Initialize an empty string to store the prime numbers
    Dim primeNumbers As String = ""

    ' Iterate through the range of numbers between number1 and number2
    For i As Integer = number1 To number2
        ' Check if the current number is prime
        If IsPrime(i) Then
            ' If prime, add it to the primeNumbers string
            primeNumbers &= i.ToString() & ", "
        End If
    Next

    ' Check if any prime numbers were found
    If primeNumbers = "" Then
        primeNumbers = "No prime numbers found."
    Else
```

```
        ' Remove the trailing comma and space from the primeNumbers
string
        primeNumbers = primeNumbers.TrimEnd(", ".ToCharArray())
    End If

    ' Display the prime numbers in a MessageBox
    MessageBox.Show("Prime numbers between " & number1.ToString() & " and
" & number2.ToString() & ": " & primeNumbers)
End Sub

Private Function IsPrime(number As Integer) As Boolean
    ' Check if the number is less than 2
    If number < 2 Then
        Return False
    End If

    ' Check for divisibility by numbers from 2 to the square root of the
number
    For i As Integer = 2 To CInt(Math.Sqrt(number))
        If number Mod i = 0 Then
            Return False
        End If
    Next

    Return True
End Function
```

Q-) What is ADO.NET? Define its architecture.
A-
ADO.NET (ActiveX Data Objects for .NET) is a data access technology in the .NET Framework that provides a set of classes and components for interacting with data sources such as databases, XML files, and web services. It allows developers to connect to, retrieve, manipulate, and update data from various sources in a consistent and efficient manner.

architecture:
1-Data Providers:(see you tube)
2-Connection:('')
3-Command:
4-DataReader:
5-DataSet:
6-DataAdapter:
7-DataViews:

Q-) What is Report? What are the different types of Reports?
A-
In .NET, a report refers to a structured document or output that presents data in a formatted and organized manner. It is a way to present information visually and can be generated dynamically based on data from various sources.
1-Tabular Reports:
2-Summary Reports:
3-Chart Reports:
4-Drill-Down Reports:Drill-down reports allow users to navigate through hierarchical data by progressively revealing additional details.
5-Parameterized Reports:reports allow users to customize the report output based on specified parameters
6-Sub-Reports:Sub-reports are reports embedded within another report.

Q-d write code in VB.NET:

? Change Font color of selected text.
? Change Font size of selected text.
? Exit button.

```
A-Private Sub btnChangeColor_Click(sender As Object, e As EventArgs)
Handles btnChangeColor.Click
    ' Change the font color of the selected text
    If txtInput.SelectionLength > 0 Then
        txtInput.SelectionColor = Color.Red
    End If
End Sub

Private Sub btnChangeSize_Click(sender As Object, e As EventArgs) Handles
btnChangeSize.Click
    ' Change the font size of the selected text
    If txtInput.SelectionLength > 0 Then
        Dim newSize As Integer = 12 ' Specify the desired font size
        txtInput.SelectionFont = New Font(txtInput.Font.FontFamily,
newSize)
    End If
End Sub

Private Sub btnExit_Click(sender As Object, e As EventArgs) Handles
btnExit.Click
    ' Close the application
    Me.Close()
End Sub
```