Version: 8.0

Case Study: 1
Contoso, Ltd.
Overview
Contoso, Ltd. is an international computer manufacturer that has 3.000 employees.

Contoso plans to develop a Universal Windows Platform (UWP) app named App1 to manage the details of the computers sold by the company. App1 will display all of the available computer models on its main page.

Users will be able to select a computer model to see its details. On the details page for each computer, there will be a picture of the respective computer. The users will be able to use touch gestures to rotate the picture and to click a button to hear a description of the computer model.

Contoso also plans to develop a REST service to provide data to Appl. The data will be stored in a Microsoft SQL Server database.

Requirements
Conceptual Design Requirements
Contoso identifies the following conceptual design requirements tor App1:

- App1 will use the Model-View-ViewModel (MVVM) pattern.
- Before implementing any code, a storyboard must be created.
- Every storyboard must be linked to a work item.
- From the storyboard design tool, you must be able to see the work items.
- From Microsoft Visual Studio 2015, you must be able to access the storyboards directly.

Technical Requirements
Contoso identifies the following technical requirements for App1:

- App1 must be developed in C# and XAML.
- App1 must run on laptops, tablets, and mobile devices.
- The same codebase must be used for the different device types, whenever possible.
- During the development of App1, you must be able to monitor the processor and memory use of App1.

Data Model
The following class was developed to store information about the computers

```csharp
class Computer
{
string model;
public string Model
{
    get
    {
        return model;
    }
    set
    {
        model = value;
    }
}
public override string ToString()
{
    return Model;
}
}
```

The data must be accessed only through the REST API, not by using a direct SQL Server connection.
Main Page Requirements
The main page file will be named MainPage.xaml. The following data context will be used for the main page.

```csharp
class ContosoAppContext
{
List<Computer> computers = new List<Computer>()
{
    new Computer() { Model= "Model1" },
    new Computer() { Model = "Model2" }
};
public list<Computer> Computers
{
    get
    {
        return computers;
    }
    set
    {
        computers = value;
    }
}
}
```

Details Page Requirements

The Details page will use the following media element.

<MediaElement x:Name="media'7>

Development Requirements

Contoso identifies the following technical requirements for the development process of App1:

- Code files must be stored in a public cloud.
- Developers must be able to work simultaneously on the code files.
- Source code synchronization must be performed directly from Visual Studio.
- From Visual Studio, a developer must be able to ensure that other developers can review the code.

For the REST service. Contoso plans to outsource the development. Contoso identifies the following technical requirements:

- Code files must be stored in the cloud.
- Developers must be able to work simultaneously on the code files.
- Source code synchronization must be performed directly from Visual Studio.
- All of the developers must have the full history of the code on their workstation.

Tests Requirements

Contoso identifies the following requirements for testing:

- Unit tests must be used.
- The tests must maximize code coverage.
- The effort required to implement the testing must be minimized.

Build Process

Contoso defines the following build process:

- Build the solution.
- When the solution is built, any required NuGet packages must be installed automatically.
- If the solution is built successfully, run the associated tests.
- If the tests are all successful, deploy the binaries to a server named TestServer.

Question: 1

You need to recommend which tool to use to create the storyboards.
What should you recommend?

A. Microsoft Visio
B. Microsoft PowerPoint
C. Microsoft Visual Studio
D. Microsoft Excel

Answer: B

Question: 2

You need to recommend which repository must be used for the REST service.
What should you recommend?

A. Team Foundation version control with Visual Studio Online
B. Microsoft Azure virtual machines with Team Foundation version control
C. Microsoft Azure Blob storage
D. GitHub

Answer: A

Question: 3

You need to recommend a solution to monitor App1.
What should you include in the recommendation?

A. the Output window in Visual Studio
B. Windows Performance Monitor
C. Resource View in Visual Studio
D. Class View in Visual Studio

Answer: B

Question: 4

You need to recommend a solution to ensure that the UI adapts to different devices.
What is the best recommendation to achieve the goal? More than one answer choice may achieve the goal. Select the BEST answer.

A. Create a single project and use VisualState.
B. Create a project for the phones, a project for the tablets, and a project for the laptops.
C. Create a single project and use a responsive .ess file.
D. Create a single project and use the LESS CSS preprocessor.

Answer: A

Question: 5

You need to recommend a source control solution for the development of Appl What should you recommend?

A. Microsoft Azure virtual machines with Team Foundation version control
B. GitHub
C. Team Foundation version control with Visual Studio Online
D. Microsoft Azure Blob storage

Answer: B

Question: 6

You need to recommend a solution to meet the testing requirements. What should you include in the recommendation?

A. a web performance test
B. load testing

C. IntelliTrace
D. IntelltiTest

Question: 7

You need to ensure that each computer in MainPage.xaml is displayed with an associated picture. What should you use?

A. VisualStateManager
B. DataTemplate
C. AdaptiveTrigger
D. VisualState

Question: 8

DRAG DROP
On the details page, you render the picture of the computer inside an object of the Rectangle type.
You need to implement the ability to rotate the rectangle that contains the picture.
How should you complete the code? To answer, drag the appropriate code elements to the correct targets. Each element may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

Code Elements

- DeltaManipulation
- ManipulationOrigin
- OriginalSource
- RenderTransform

Answer Area

```
void Window_ManipulationDelta(object sender, ManipulationDeltaEventArgs e)
{
    Rectangle rectToMove = e. [Code element]    as Rectangle;

    Matrix rectsMatrix = ((MatrixTransform)rectToMove. [Code element]   ).Matrix;

    rectsMatrix.RotateAt(e. [Code element]    .Rotation,

                      e. [Code element]    .X,

                      e. [Code element]    .Y);

rectToMove.RenderTransform - new MatrixTransform(rectsMatrix);
```

Answer:

Answer Area

```
void Window_ManipulationDelta(object sender, ManipulationDeltaEventArgs e)
{
    Rectangle rectToMove = e. [OriginalSource] as Rectangle;

    Matrix rectsMatrix = ((MatrixTransform)rectToMove. [Code element] ).Matrix;

    rectsMatrix.RotateAt(e. [DeltaManipulation] .Rotation,
                        e. [ManipulationOrigin] .X,
                        e. [ManipulationOrigin] .Y);

rectToMove.RenderTransform - new MatrixTransform(rectsMatrix);
```