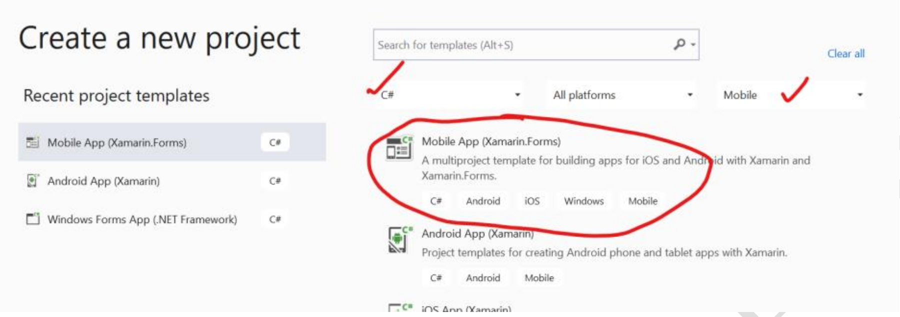
HANDS-ON EXERCISE 4

OBJECTIVES:

- Interact with GUI objects such as buttons and textbox
- Change XAML properties of any given GUI objects

DIRECTIONS:

1. Create a new project in Visual Studio 2019 and select Mobile App (Xamarin.Forms) on the template options. Save it as Exer4_YOURFULLNAME. This application is going to determine if a student is an academic achiever based on his average and lowest grade provided.



Create a new project

Recent project templates

Mobile App (Xamarin.Forms) C#

Android App (Xamarin) C#

Windows Forms App (.NET Framework) C#

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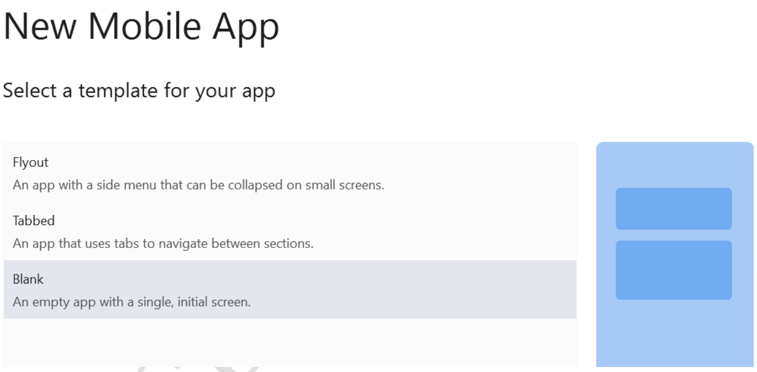
C# | All platforms | Mobile

Mobile App (Xamarin.Forms)
A multiproject template for building apps for iOS and Android with Xamarin and Xamarin.Forms.
C# Android iOS Windows Mobile

Android App (Xamarin)
Project templates for creating Android phone and tablet apps with Xamarin.
C# Android Mobile

iOS App (Xamarin)

2. Select Blank template. Leave Android and iOS as ticked to allow your application to run in both platforms. Click Create button.



New Mobile App

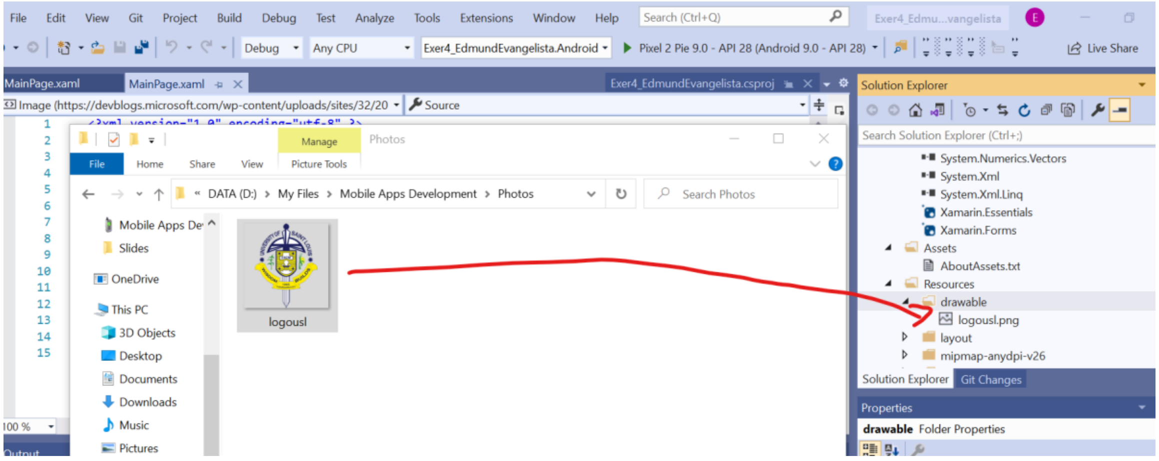
Select a template for your app

Flyout
An app with a side menu that can be collapsed on small screens.

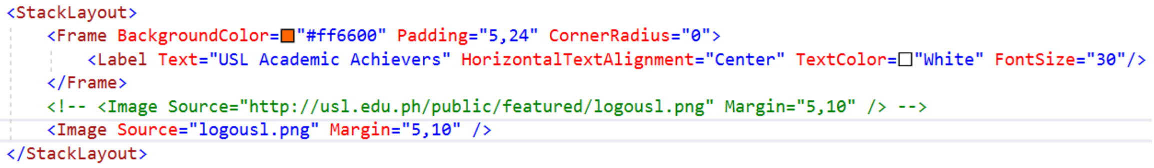
Tabbed
An app that uses tabs to navigate between sections.

Blank
An empty app with a single, initial screen.

3. Save the logo found in http://usl.edu.ph/public/featured/logousl.png to your local computer. Then drag and drop it to the folder **/Resources/drawable** under the Android part of your Solution Explorer. Make sure not to use special characters in the filename of your image, and all in lowercase characters.



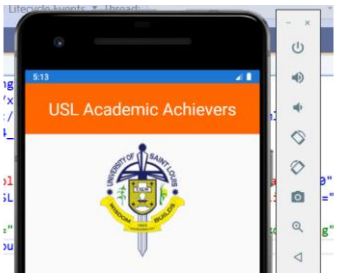
4. Modify the content of the Mobile app by opening MainPage.xaml. Delete the extra text under <StackLayout> and retain only the scripts under <Frame> tag. Insert an image below the </Frame>. As you can see, the code below uses directly the photo that you have dragged into /Resources/drawable. If it does not work to you, use the commented <Image> tag that points out to a link as its source.



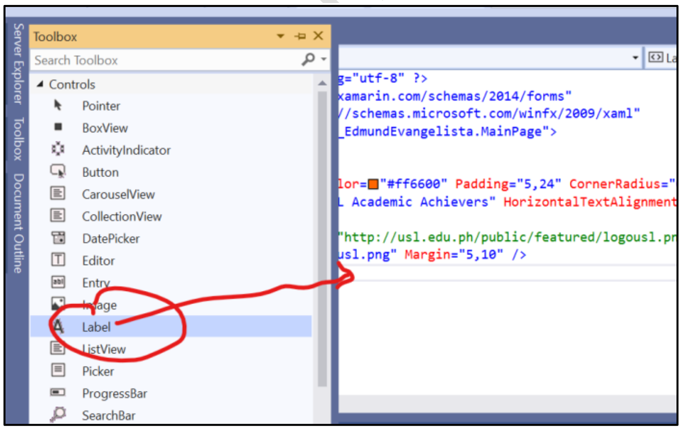
```
<StackLayout>
    <Frame BackgroundColor=■"#ff6600" Padding="5,24" CornerRadius="0">
        <Label Text="USL Academic Achievers" HorizontalTextAlignment="Center" TextColor=□"White" FontSize="30"/>
    </Frame>
    <!-- <Image Source="http://usl.edu.ph/public/featured/logousl.png" Margin="5,10" /> -->
    <Image Source="logousl.png" Margin="5,10" />
</StackLayout>
```

Set the background color and padding properties of your frame and the margin of your image as shown.

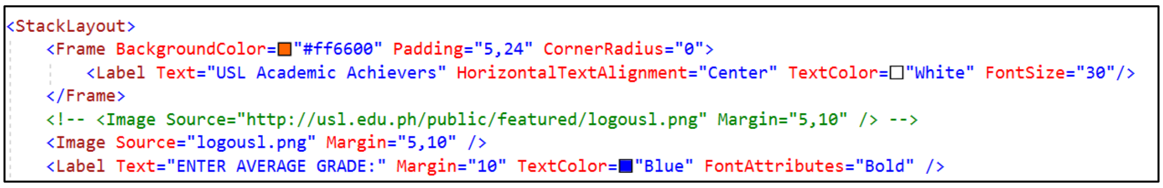
5. Build and run your application to see if the image added has been picked up properly.



6. Position your cursor below the image in Mainpage.xaml and drag a label from Toolbox to your design window. Set the text property of the label as shown below.

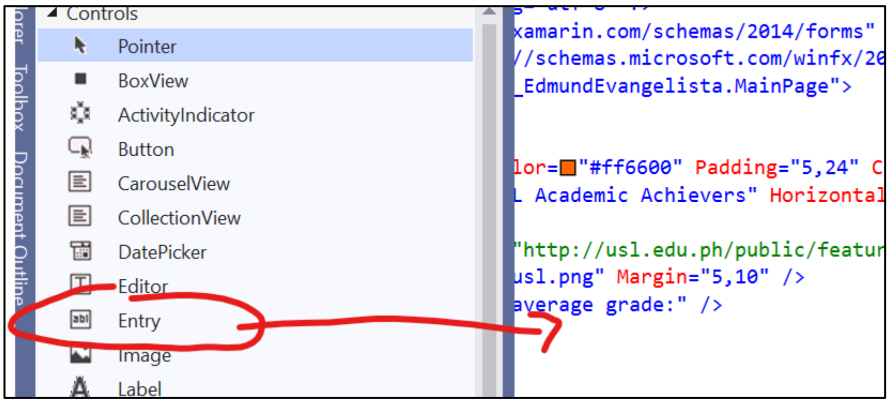


```
g="utf-8" ?>
xamarin.com/schemas/2014/forms"
//schemas.microsoft.com/winfx/2009/xaml"
_EdmundEvangelista.MainPage">

lor=■"#ff6600" Padding="5,24" CornerRadius="
L Academic Achievers" HorizontalTextAlignment

"http://usl.edu.ph/public/featured/logousl.p
usl.png" Margin="5,10" />
```

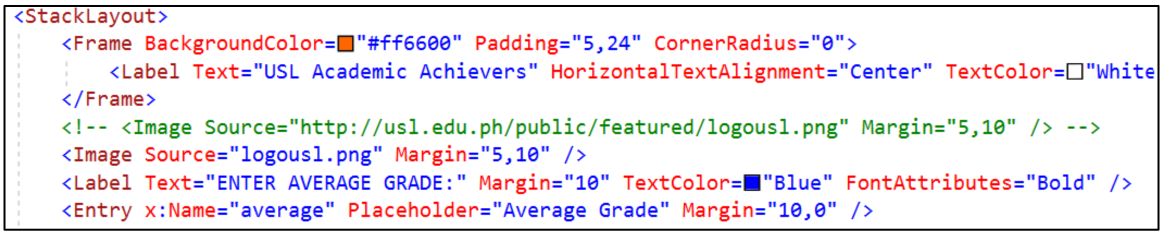


```
<StackLayout>
    <Frame BackgroundColor=■"#ff6600" Padding="5,24" CornerRadius="0">
        <Label Text="USL Academic Achievers" HorizontalTextAlignment="Center" TextColor=□"White" FontSize="30"/>
    </Frame>
    <!-- <Image Source="http://usl.edu.ph/public/featured/logousl.png" Margin="5,10" /> -->
    <Image Source="logousl.png" Margin="5,10" />
    <Label Text="ENTER AVERAGE GRADE:" Margin="10" TextColor=■"Blue" FontAttributes="Bold" />
```

7. Go back to the Toolbox and drag an Entry object which serves as our 1st textbox. Make sure to type correctly the x:Name property. This serves as the variable name of our 1st textbox.

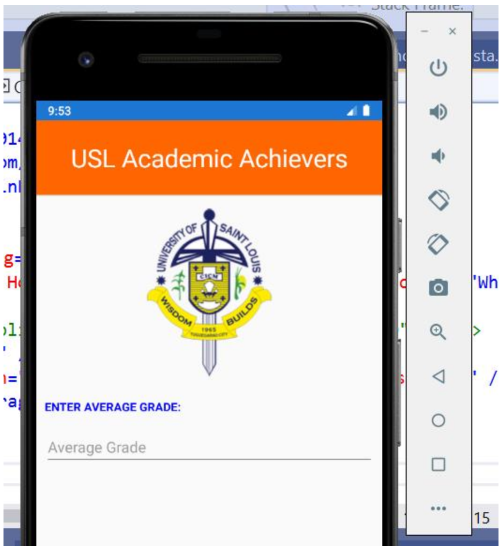


```
xamarin.com/schemas/2014/forms"
//schemas.microsoft.com/winfx/20
_EdmundEvangelista.MainPage">

lor=🟧"#ff6600" Padding="5,24" C
L Academic Achievers" Horizontal

"http://usl.edu.ph/public/featur
usl.png" Margin="5,10" />
average grade:" />
```

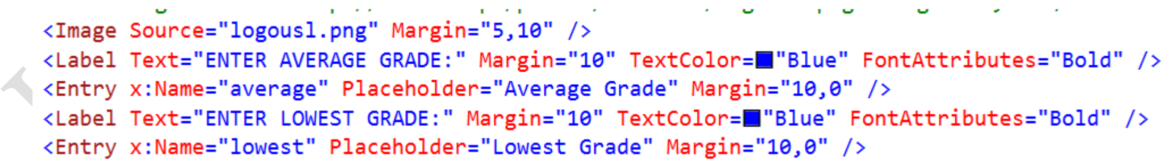


```
<StackLayout>
    <Frame BackgroundColor=🟧"#ff6600" Padding="5,24" CornerRadius="0">
        <Label Text="USL Academic Achievers" HorizontalTextAlignment="Center" TextColor=□"White
    </Frame>
    <!-- <Image Source="http://usl.edu.ph/public/featured/logousl.png" Margin="5,10" /> -->
    <Image Source="logousl.png" Margin="5,10" />
    <Label Text="ENTER AVERAGE GRADE:" Margin="10" TextColor=🟦"Blue" FontAttributes="Bold" />
    <Entry x:Name="average" Placeholder="Average Grade" Margin="10,0" />
```

Your application should like the interface below if you try to run it



Add another Label and Entry for the lowest grade.

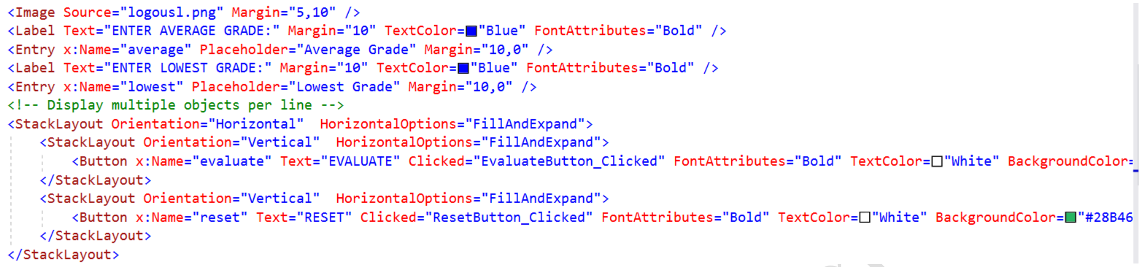


```
<Image Source="logousl.png" Margin="5,10" />
<Label Text="ENTER AVERAGE GRADE:" Margin="10" TextColor=🟦"Blue" FontAttributes="Bold" />
<Entry x:Name="average" Placeholder="Average Grade" Margin="10,0" />
<Label Text="ENTER LOWEST GRADE:" Margin="10" TextColor=🟦"Blue" FontAttributes="Bold" />
<Entry x:Name="lowest" Placeholder="Lowest Grade" Margin="10,0" />
```

8. Add two buttons below the last Entry object as shown below. This creates a sub stacklayout for displaying two buttons in just one row. Simply copy and paste the code below the line Entry for “Lowest Grade”.

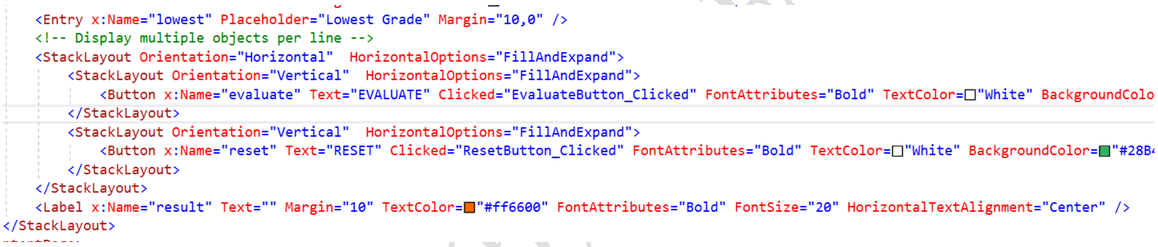
```
<StackLayout Orientation="Horizontal"  HorizontalOptions="FillAndExpand">
            <StackLayout Orientation="Vertical"
HorizontalOptions="FillAndExpand">
                <Button x:Name="evaluate" Text="EVALUATE"
Clicked="EvaluateButton_Clicked" FontAttributes="Bold" TextColor="White"
BackgroundColor="Blue" Margin="10,0" />
            </StackLayout>
            <StackLayout Orientation="Vertical"
HorizontalOptions="FillAndExpand">
                <Button x:Name="reset" Text="RESET" Clicked="ResetButton_Clicked"
FontAttributes="Bold" TextColor="White" BackgroundColor="#28B463" Margin="10,0" />
            </StackLayout>
        </StackLayout></StackLayout>
```

9. Your code should now look like this. The Evaluate button is used to determine whether a student is Full Academic Scholar, Half Academic Scholar, or Dean's Lister. The Reset button is simply used to clear value of the two Entry textboxes.



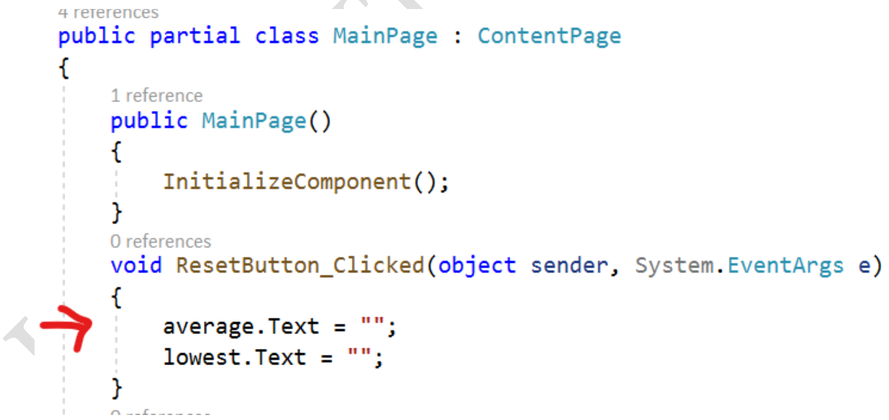
```
<Image Source="logousl.png" Margin="5,10" />
<Label Text="ENTER AVERAGE GRADE:" Margin="10" TextColor=■"Blue" FontAttributes="Bold" />
<Entry x:Name="average" Placeholder="Average Grade" Margin="10,0" />
<Label Text="ENTER LOWEST GRADE:" Margin="10" TextColor=■"Blue" FontAttributes="Bold" />
<Entry x:Name="lowest" Placeholder="Lowest Grade" Margin="10,0" />
<!-- Display multiple objects per line -->
<StackLayout Orientation="Horizontal"  HorizontalOptions="FillAndExpand">
    <StackLayout Orientation="Vertical"  HorizontalOptions="FillAndExpand">
        <Button x:Name="evaluate" Text="EVALUATE" Clicked="EvaluateButton_Clicked" FontAttributes="Bold" TextColor=□"White" BackgroundColor=
    </StackLayout>
    <StackLayout Orientation="Vertical"  HorizontalOptions="FillAndExpand">
        <Button x:Name="reset" Text="RESET" Clicked="ResetButton_Clicked" FontAttributes="Bold" TextColor=□"White" BackgroundColor=🟩"#28B46
    </StackLayout>
</StackLayout>
```

10. Add another label (x:Name="result") to display our results.



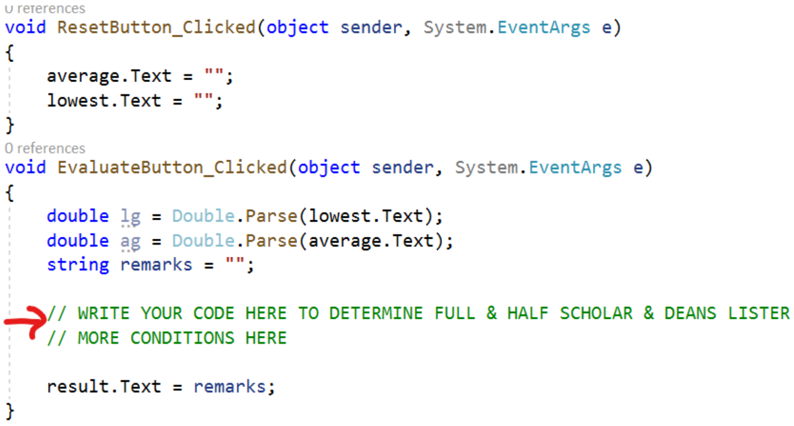
```
    <Entry x:Name="lowest" Placeholder="Lowest Grade" Margin="10,0" />
    <!-- Display multiple objects per line -->
    <StackLayout Orientation="Horizontal"  HorizontalOptions="FillAndExpand">
        <StackLayout Orientation="Vertical"  HorizontalOptions="FillAndExpand">
            <Button x:Name="evaluate" Text="EVALUATE" Clicked="EvaluateButton_Clicked" FontAttributes="Bold" TextColor=□"White" BackgroundColo
        </StackLayout>
        <StackLayout Orientation="Vertical"  HorizontalOptions="FillAndExpand">
            <Button x:Name="reset" Text="RESET" Clicked="ResetButton_Clicked" FontAttributes="Bold" TextColor=□"White" BackgroundColor=🟩"#28B
        </StackLayout>
    </StackLayout>
    <Label x:Name="result" Text="" Margin="10" TextColor=🟧"#ff6600" FontAttributes="Bold" FontSize="20" HorizontalTextAlignment="Center" />
</StackLayout>
```

11. Go to your Mainpage.cs to modify the source code. Add the method to reset the value of our Entries.



```
4 references
public partial class MainPage : ContentPage
{
    1 reference
    public MainPage()
    {
        InitializeComponent();
    }
    0 references
    void ResetButton_Clicked(object sender, System.EventArgs e)
    {
        average.Text = "";
        lowest.Text = "";
    }
```

12. Insert another method on the source code for the Evaluate button. But this time, you need to write your own nested if condition to determine if a student is Full or Half Academic Scholar, or a Dean's Lister. The variable "remarks" is where you will save the result if the student is an academic achiever or not.

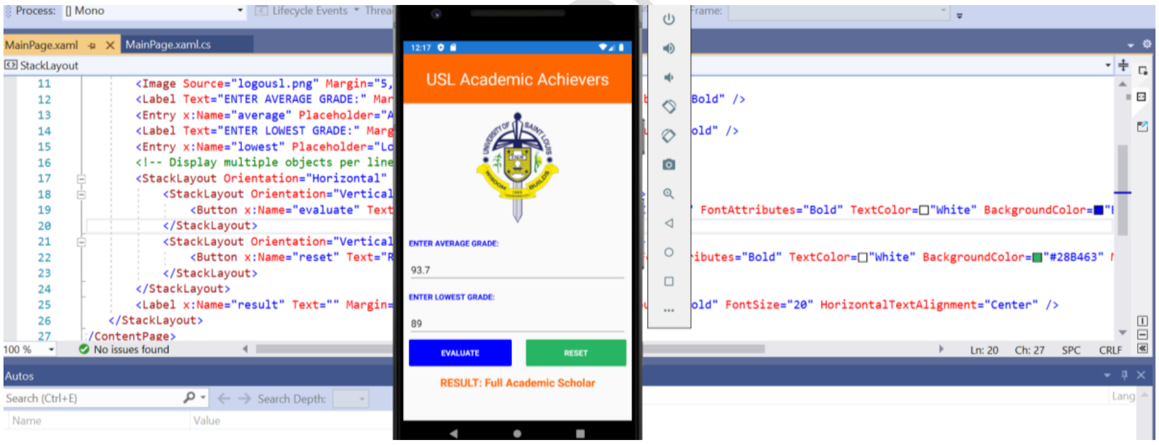


```
0 references
void ResetButton_Clicked(object sender, System.EventArgs e)
{
    average.Text = "";
    lowest.Text = "";
}
0 references
void EvaluateButton_Clicked(object sender, System.EventArgs e)
{
    double lg = Double.Parse(lowest.Text);
    double ag = Double.Parse(average.Text);
    string remarks = "";

    // WRITE YOUR CODE HERE TO DETERMINE FULL & HALF SCHOLAR & DEANS LISTER
    // MORE CONDITIONS HERE

    result.Text = remarks;
}
```

Use this condition to determine if a student is an academic achiever or not.

Average	Lowest	Remarks
92 and above	85 and above	Full Academic Scholar
90 – 91.99	85 and above	Half Academic Scholar
88 and above	80 and above	Dean's Lister
none of the above		Sorry, not qualified

13. In the end, your mobile should look like the screenshot below, capable of detecting the correct remarks for a given student.



```
            <Image Source="logousl.png" Margin="5,
            <Label Text="ENTER AVERAGE GRADE:" Mar
            <Entry x:Name="average" Placeholder="A
            <Label Text="ENTER LOWEST GRADE:" Marg
            <Entry x:Name="lowest" Placeholder="Lo
            <!-- Display multiple objects per line
            <StackLayout Orientation="Horizontal"
                <StackLayout Orientation="Vertical
                    <Button x:Name="evaluate" Text
                </StackLayout>
                <StackLayout Orientation="Vertical
                    <Button x:Name="reset" Text="R
                </StackLayout>
            </StackLayout>
            <Label x:Name="result" Text="" Margin=
        </StackLayout>
</ContentPage>
```

```
Bold" />
old" />
' FontAttributes="Bold" TextColor=□"White" BackgroundColor=■"
ibutes="Bold" TextColor=□"White" BackgroundColor=■"#28B463"
old" FontSize="20" HorizontalTextAlignment="Center" />
```

USL Academic Achievers

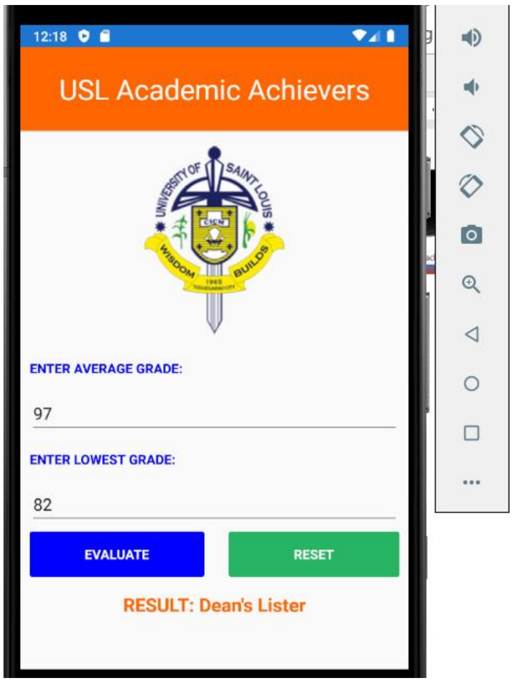
ENTER AVERAGE GRADE:

93.7

ENTER LOWEST GRADE:

89

RESULT: Full Academic Scholar



USL Academic Achievers

ENTER AVERAGE GRADE:

97

ENTER LOWEST GRADE:

82

RESULT: Dean's Lister