Program MATH_SCORES: Your math instructor gives three tests worth 50 points each. You can drop one of the test scores. The final grade is the sum of the two best test scores. Assuming the three test scores are input from the keyboard, write an interactive program that asks the user to enter three test scores and then calculates the final letter grade using the following cut-off points.

>=90 A
<90, >=80 B
<80, >=70 C
<70, >=60 D
< 60 F

Input validation: Display an error message if the user enters a score greater than 50 and do not accept negative values.

Program Math Calculator: Write a program that displays the following menu:

Simple Math Calculator

1. Calculate the Area of a Circle
2. Calculate the Perimeter of a Rectangle
3. Calculate the Area of a Triangle
4. Quit

Enter your choice (1 - 4):

If the user enters 1, the program should ask for the radius of the circle and then display its area.
Use the following formula: **area = πr^2** *Use 3.14159 for π and the radius of the circle for *r.*

If the user enters 2, the program should ask for the length and width of the rectangle and then display the rectangle's perimeter.
Use the following formula: **perimeter = 2(length + width)**

If the user enters 3 the program should ask for the length of the triangle's base and its height, and then display its area.
Use the following formula: **area = base * height * .5**

If the user enters 4, the program should end.

Input validation: Display an error message if the user enters a number outside the range 1 through 4 when selecting an item from the menu.
Do not accept negative values for the circle's radius, the rectangle's length or width, or the triangle's base or height.

Software Sales

A software company sells a package that retails for $99. Quantity discounts are given according to the following table.

Quantity	Discount
10—19	20%
20—49	30%
50—99	40%
l00 or more	50%

Write a program that asks for the number of units purchased and computes the total cost of the purchase.

Input Validation: Make sure the number of units is greater than 0.

Color Mixer

The colors red, blue, and yellow are known as primary colors because they cannot be made by mixing other colors. When you mix two primary colors, you get a secondary color, as shown here:

- When you mix red and blue, you get purple.
- When you mix red and yellow, you get orange.
- When you mix blue and yellow, you get green.

Write a program that prompts the user to enter the names of two primary colors to mix. If the user enters anything other than "red," "blue," or "yellow," the program should display an error message. Otherwise, the program should display the name of the secondary color that results by mixing two primary colors.

Restaurant Selector

You have a group of friends coming to visit for your high school reunion, and you want to take them out to eat at a local restaurant. You aren't sure if any of them have dietary restrictions, but your restaurant choices are as follows:

Joe's Gourmet Burgers—Vegetarian: No, Vegan: No, Gluten-Free: No

Main Street Pizza Company—Vegetarian: Yes, Vegan: No, Gluten-Free: Yes

Corner Café—Vegetarian: Yes, Vegan: Yes, Gluten-Free: Yes

Mama's Fine Italian—Vegetarian: Yes, Vegan: No, Gluten-Free: No

The Chef's Kitchen—Vegetarian: Yes, Vegan: Yes, Gluten-Free: Yes

Write a program that asks whether any members of your party are vegetarian, vegan, or gluten-free, then displays only the restaurants that you may take the group to.

Here is an example of the program's output:

Is anyone in your party a vegetarian? **yes**
Is anyone in your party a vegan? **no**
Is anyone in your party gluten-free? **yes**

Here are your restaurant choices:

Main Street Pizza Company
Corner Café
The Chef's Kitchen

Here is an example of the program's output:

Is anyone in your party a vegetarian? **yes**
Is anyone in your party a vegan? **yes**
Is anyone in your party gluten-free? **yes**

Here are your restaurant choices:

Corner Café
The Chef's Kitchen