General Direction: You are tasked to create a web application via Flask in an MVC design pattern given the details below.

Submission Requirements:

- ✓ A zipped folder containing all code files provided via a drive link
- ✓ Screenshots of your running web application, showing all possible scenarios.

Other important Notes:

- ✓ You are allowed to use your own resources (reference codes, etc.)
- ✓ You are given the liberty to provide your own design and page organization.
- ✓ The MVC Structure is NOT provided herein. You need to design your own structure in assigning code files related to Model, View, and Controller. For example, you can set the Computation in Model, Page Designs in View, and the actual Flask in your Controller.
- ✓ For those who will NOT provide an MVC Structure, your output will still be considered for scoring. However, score for MVC will automatically be zero.

Rubric:

Criteria	Description	Points
Execution	The web application is capable of executing the required functionalities correctly and completely	40
Flask Integration	Flask was properly integrated and used. This shall include the rendering, routing, and passing of data	20
Design and Organization	This task shall not be gauged on the aspect of aesthetics. The criteria will look for proper organization with an acceptable UI and navigation	10
MVC Structure	MVC design pattern was used correctly	30

Web Application details are explained herein. There are three (3) pages that you need to create. Please read and understand before starting any codes.

Access Page

The access page allows user to enter a predefined username and password. You can provide your own predefined data in any form (string, array, dictionary, etc.)

Predefined Users: {user1,user2,user3}
Predefined Passwords: {pword1,pword2,pword3}

- ✓ User can use any predefined credentials to gain access. Page shall be redirected to Main Page upon successful login.
- ✓ Mismatched credentials, including empty inputs of either username or password, or both credentials shall redirect to Error Page.

Main Page

The Main Page allows computation of a Simple Classification Model Metrics including Precision, Recall, F1 Score, and Accuracy.

Typical Confusion Matrix

n=165	**Predicted: NO**	**Predicted: YES**	
Actual: NO	TN = 50	FP = 10	60
Actual: YES	FN = 5	TP = 100	105
	55	110	

- Precision is the ratio of true positives to the sum of true positives and false positives. Precision = TP / (TP + FP)
- Recall is the ratio of true positives to the sum of true positives and false negatives. Recall = TP / (TP + FN)
- F1 score is the harmonic mean of precision and recall. F1 = 2 * (precision * recall) / (precision + recall)
- Accuracy is the ratio of correct predictions to the total number of predictions. Accuracy = (TP + TN) / (TP + TN + FP + FN)

Main Page Content:

- ✓ The page shall allow users to enter value for TP, TN, FP, and FN
- ✓ The page shall show Computed Classification of all Metrics
- ✓ The page shall provide the total number N given the entered TP,TN,FP, and FN
- ✓ The page must show the Interpretation of the Computed Accuracy base on the Table of the level of Agreement below
- ✓ For any errors in computation, including empty inputs of any metrics, the page shall be able to redirect to Error Page

Accuracy	**Interpretation**
0.00 – 0.10	No Agreement
0.11 – 0.40	Slight Agreement
0.41 – 0.60	Moderate Agreement
0.61 – 0.80	Substantial Agreement
0.81 – 0.99	Perfect Agreement

Error Page

For Access Error, the page shall show: "There was an error in Accessing the Main Page, please click the back button to go back to the Access Page and provide a correct credential"

The page must have a button to go back to the Access Page

For Computation Error, the page shall show: "There was an error in Computing for the Classification Metrics, please click the back button to go back to the Main Page and provide a correct input"

The page must have a button to go back to the Main Page

"Any fool can write code that a computer can understand. Good programmers write code that humans can understand."

GOOD LUCK!