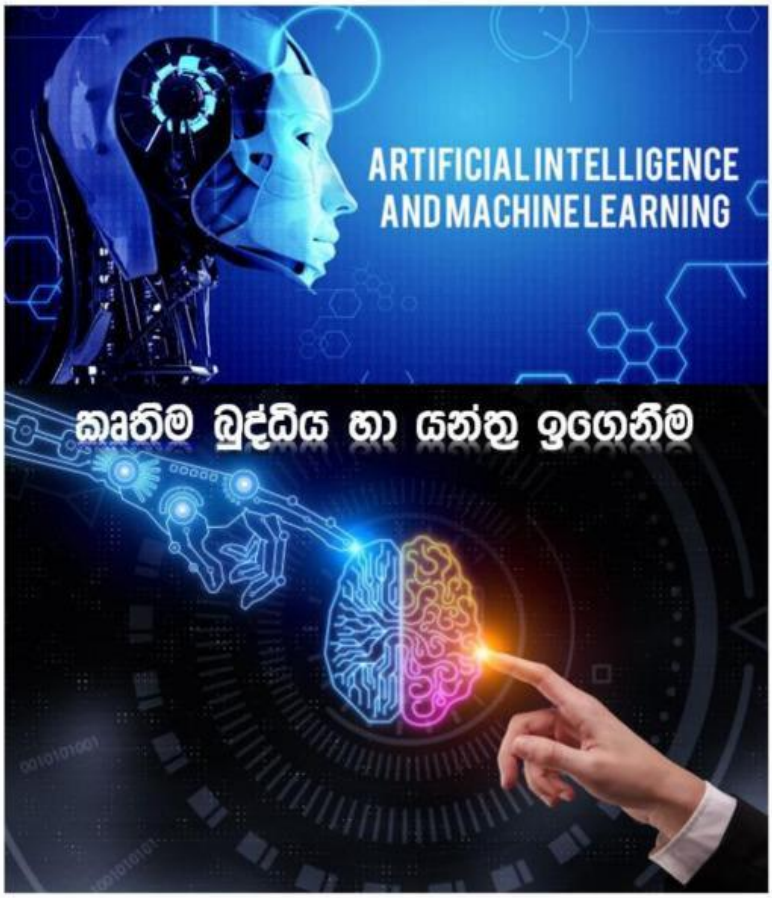
Project 163
163 වන ව්‍යාපෘතිය

DP EDUCATION

Coding School

AI and Machine Learning

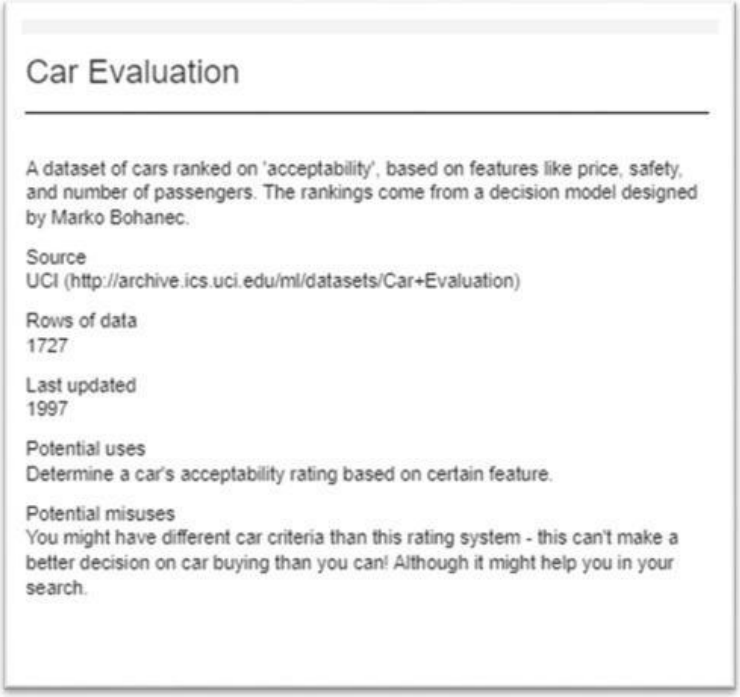


වෙබ් පිටුව බලන්න

ආරම්භ කරන්න

LIVEWORKSHEETS

- මෙහිදී අපි Code.org වල ඇති AI and machine learning පාඨමාලවේ lesson 16 වෙනි පාඩම සඳහා homework එක බලමු.
- මෙම පාඩම දී ඔබට කැමති ආකාරයට data set එකක් select කර එමගින් machine learning model එකක් train කර එය භාවිතා කර mobile app එකක් නිර්මාණය කරන ආකාරය ලබා දී ඇත.
- මෙම data set අතරින් එකක් භාවිතා කර mobile app එකක් නිර්මාණය කරමු.
- මෙහිදී Car Evaluation යන data set එක තොරා ගනිමු.



Car Evaluation

A dataset of cars ranked on 'acceptability', based on features like price, safety, and number of passengers. The rankings come from a decision model designed by Marko Bohanec.

Source
UCI (http://archive.ics.uci.edu/ml/datasets/Car+Evaluation)

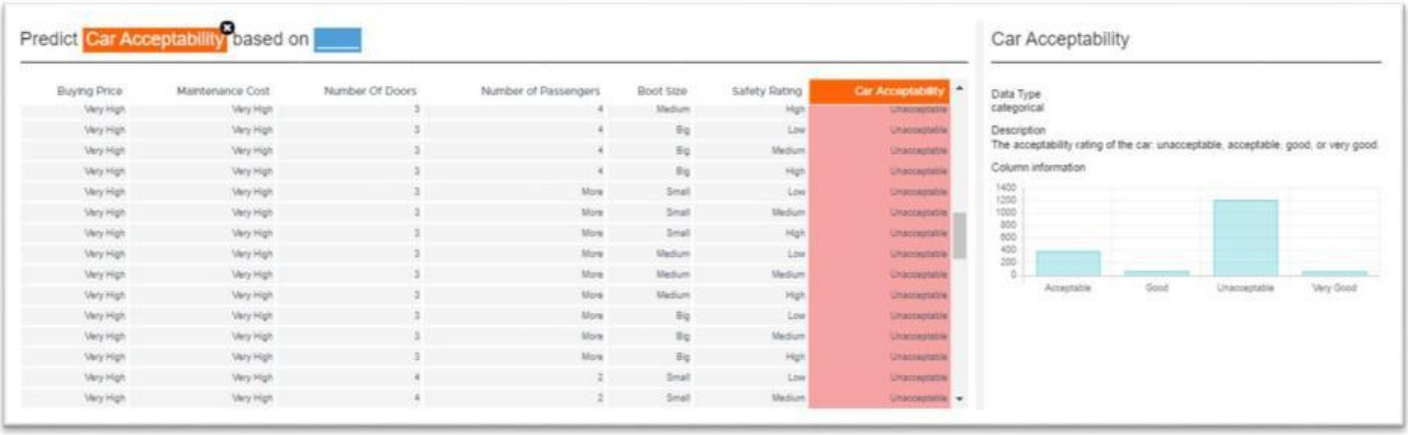
Rows of data
1727

Last updated
1997

Potential uses
Determine a car's acceptability rating based on certain feature.

Potential misuses
You might have different car criteria than this rating system - this can't make a better decision on car buying than you can! Although it might help you in your search.

- මෙහිදී Cars වල Safety Rating එක predict කරමු.
- ඒ සඳහා Safety Rating යන column එක click කර select label මත click කරන්න.



Predict Car Acceptability based on

Buying Price	Maintenance Cost	Number Of Doors	Number of Passengers	Boot Size	Safety Rating	Car Acceptability
Very High	Very High	3	4	Medium	High	Unacceptable
Very High	Very High	3	4	Big	Low	Unacceptable
Very High	Very High	3	4	Big	Medium	Unacceptable
Very High	Very High	3	4	Big	High	Unacceptable
Very High	Very High	3	More	Small	Low	Unacceptable
Very High	Very High	3	More	Small	Medium	Unacceptable
Very High	Very High	3	More	Small	High	Unacceptable
Very High	Very High	3	More	Medium	Low	Unacceptable
Very High	Very High	3	More	Medium	Medium	Unacceptable
Very High	Very High	3	More	Medium	High	Unacceptable
Very High	Very High	3	More	Big	Low	Unacceptable
Very High	Very High	3	More	Big	Medium	Unacceptable
Very High	Very High	3	More	Big	High	Unacceptable
Very High	Very High	4	2	Small	Low	Unacceptable
Very High	Very High	4	2	Small	Medium	Unacceptable

Car Acceptability

Data Type
categorical

Description
The acceptability rating of the car: unacceptable, acceptable, good, or very good.

Column information

LIVEWORKSHEETS

- දැන් continue මත click කරන්න.
- දැන් එක් එක් label select කරමින් ඔබට ලබා ගත හැකි create කල හැකි model වල accuracy එක ගණනය කරන්න.
- මෙහිදි labels වෙනස් කරමින් සකස් කරන ලද model වල accuracy එක පහත පරිදි වේ.

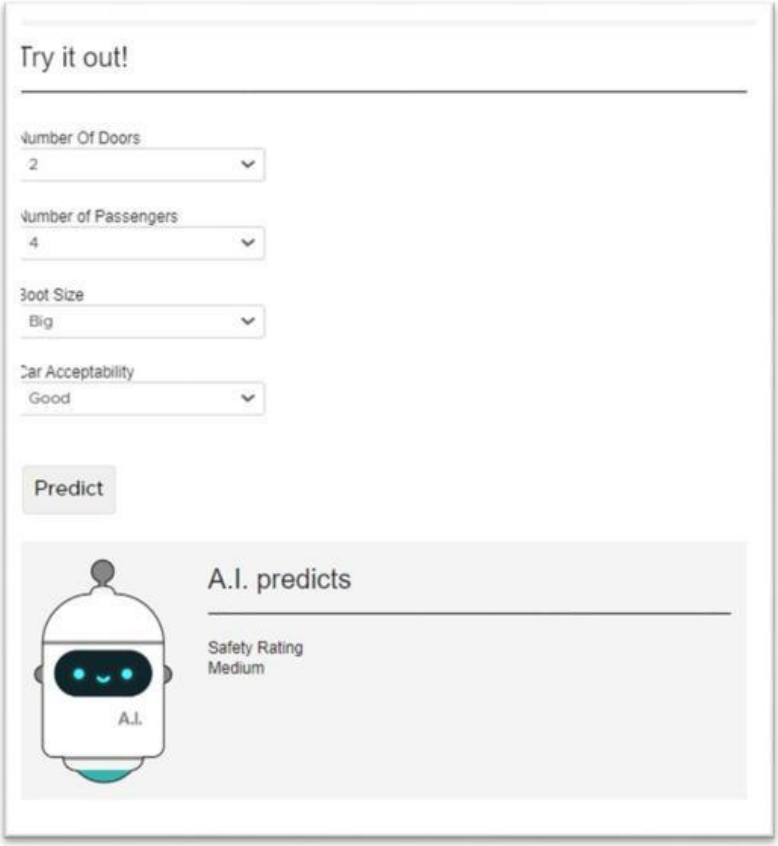
Predict Safety Rating based on Car Acceptability, Boot Size, Number Of Doors	54.34%
Predict Safety Rating based on Maintenance Cost, Buying Price	35.26%
Predict Safety Rating based on Car Acceptability, Maintenance Cost	55.49%
Predict Safety Rating based on Car Acceptability, Number of Passengers, Maintenance Cost	56.65%
Predict Safety Rating based on Car Acceptability, Number of Passengers	43.93%
Predict Safety Rating based on Car Acceptability	54.34%
Predict Safety Rating based on Car Acceptability, Boot Size	54.34%
Predict Safety Rating based on Number of Passengers, Boot Size, Car Acceptability, Number Of Doors, Maintenance Cost	49.71%
Predict Safety Rating based on Number of Passengers, Boot Size, Car Acceptability, Number Of Doors	56.07%
Predict Safety Rating based on Number of Passengers, Boot Size, Car Acceptability	49.71%
Predict Safety Rating based on Number of Passengers, Buying Price, Boot Size, Maintenance Cost, Car Acceptability	54.91%
Predict Safety Rating based on Number of Passengers, Buying Price, Boot Size, Maintenance Cost	34.68%
Predict Safety Rating based on Number of Passengers, Car Acceptability, Buying Price, Boot Size	56.07%
Predict Safety Rating based on Number of Passengers, Car Acceptability, Maintenance Cost, Buying Price, Boot Size	57.80%
Predict Safety Rating based on Number of Passengers, Car Acceptability, Maintenance Cost, Buying Price, Boot Size, Number Of Doors	46.82%
Predict Safety Rating based on Number Of Doors, Number of Passengers, Car Acceptability, Maintenance Cost, Buying Price, Boot Size	53.18%
Predict Safety Rating based on Number Of Doors, Number of Passengers, Car Acceptability, Maintenance Cost, Buying Price	51.45%
Predict Safety Rating based on Number Of Doors, Number of Passengers, Car Acceptability	49.13%
Predict Safety Rating based on Number Of Doors, Number of Passengers, Boot Size	31.79%
Predict Safety Rating based on Buying Price, Number Of Doors, Maintenance Cost, Number of Passengers, Boot Size	30.06%

- මෙහිදී වැඩිම accuracy එක ලබා ගත හැකි වූයේ 58.38% වේ. එය භාවිතා කර machine learning model එකක් නිර්මාණය කරන ලදී.

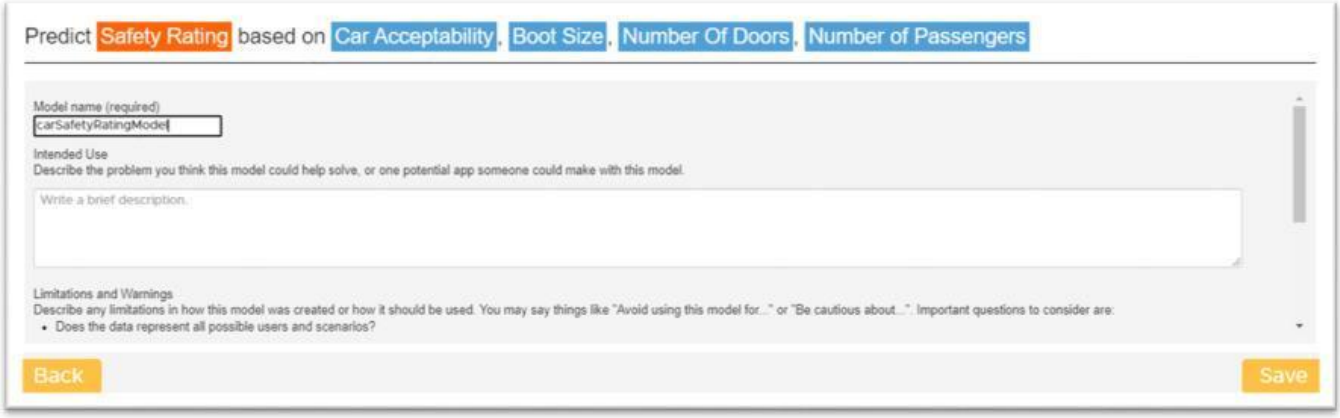
Result

	Accuracy	
Predict Safety Rating based on Car Acceptability, Boot Size, Number Of Doors, Number of Passengers	58.38%	Details

LIVEWORKSHEETS

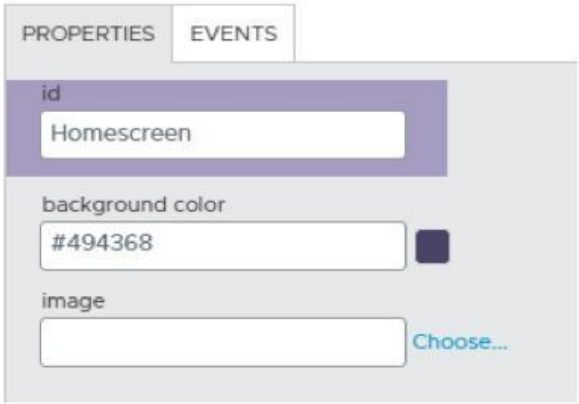


- ඇන් continue මත click කරන්න.
- Model එක සඳහා name එකක් ලබා දෙන්න.

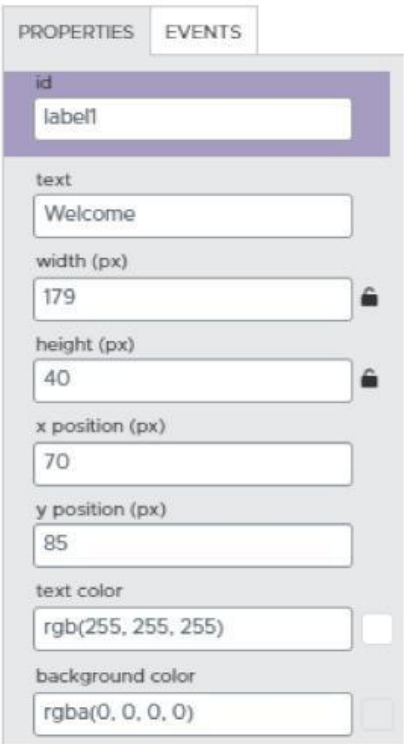


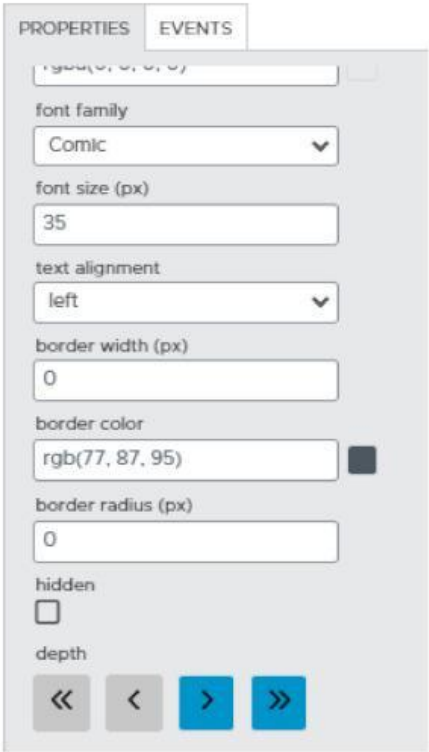
LIVEWORKSHEETS

- ❖ එම model එක save කර AI and machine learning පාඨමාලවේ lesson 16 වෙනි පාඩම දෙවන කොටසට යන්න.
- ❖ App lab එක හා අප සකස් කරන ලද model එක භාවිතා කර app එක නිර්මාණය කරමු.
- ❖ මුලින් ම home screen එක සකස් කරමු.

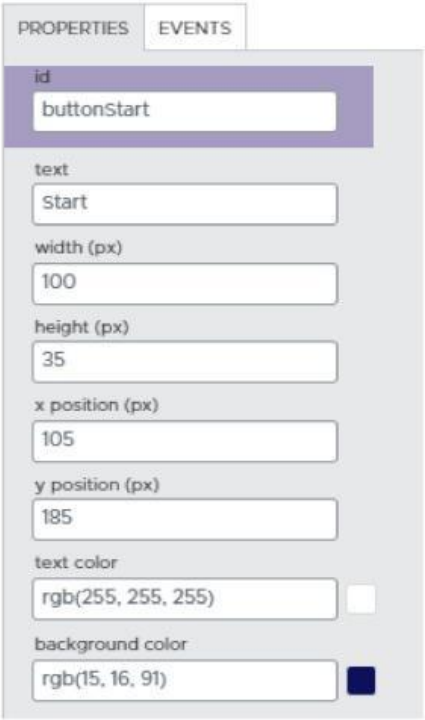


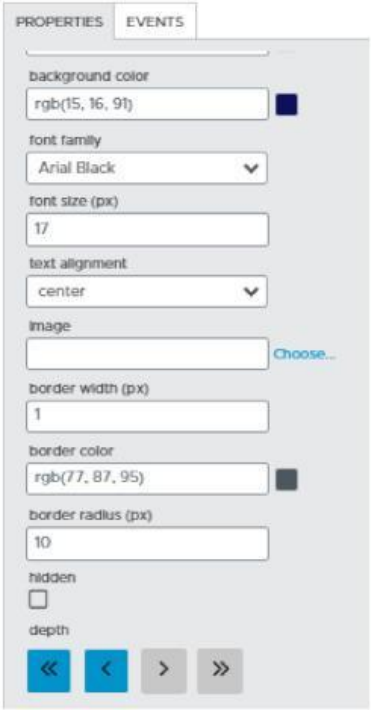
- ❖ Home screen එක සඳහා welcome ගෙස label එකක් හා start ලෙස button එකක් ලබා දෙන්න.



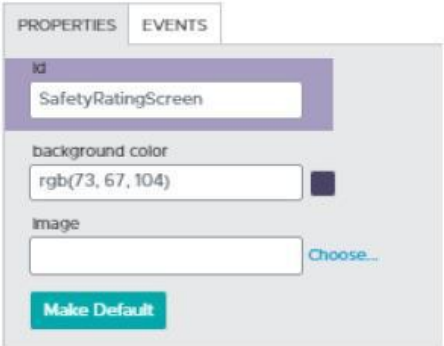


LIVEWORKSHEETS





❖ Safety Rating එක predict කිරීම සඳහා screen එක add කරන්න.

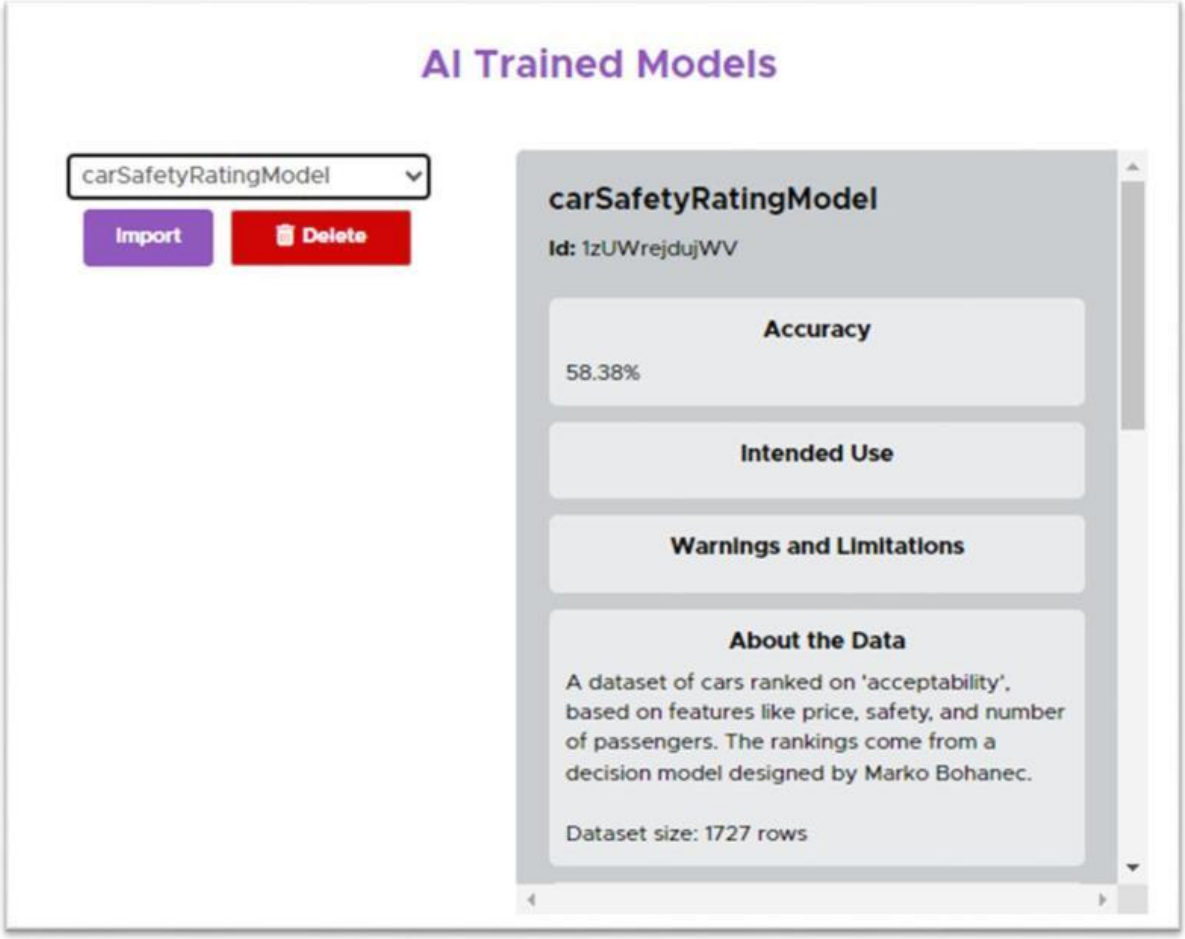


❖ Start button එක click කල විට Safety Rating Screen එකට ගමන් කරන ලෙස code කරන්න.

```
onEvent("buttonStart", "click", function() {
  setScreen("SafetyRatingScreen");
});
```

LIVEWORKSHEETS

❖ Safety Rating Screen සඳහා model එක import කර ගනිමු.



❖ Label වල text color එක rgb(255, 255, 255) ලෙස ලබා දෙන්න.

❖ Predict button එක සඳහා පහත ආකාරයට style කර ගන්න.

LIVEWORKSHEETS

❖ Predict button එකට ආදාල code පහත ආකාරයට සකස් කරන්න.

```
onEvent(▼"buttonStart", ▼"click", function() {
  setScreen(▼"SafetyRatingScreen");
});
var data = {};
onEvent(▼"carSafetyRatingModel_predict", ▼"click", function() {
  addPair(data, "CarAcceptability", getText(▼"CarAcceptability_dropdown"));
  addPair(data, "BootSize", getText(▼"BootSize_dropdown"));
  addPair(data, "NumberOfDoors", getText(▼"NumberOfDoors_dropdown"));
  addPair(data, "NumberofPassengers", getText(▼"NumberofPassengers_dropdown"));
  setText(▼"carSafetyRatingModel_prediction", '');
  getPrediction("carSafetyRatingModel", "1zUWrejdujWV", data, function(value) {
    setText(▼"carSafetyRatingModel_prediction", value);
  });
});
```

❖ දැන් ඔබේ app එක run කර බලන්න.

LIVEWORKSHEETS