Team ID : BIO3

Member Data:

Name	ID	Department	Year
Eman ElMoutaz Bella Mohamed	20191701044	Bioinformatics	4th
Shimaa Alaa Yousef	20191701113	Bioinformatics	4th
Alaa Moshen Mahmoud	20191701030	Bioinformatics	4th
Ahmed Ashraf Ahmed	20191701003	Bioinformatics	4th
Osama Mahmoud Ahmed	20191701022	Bioinformatics	4th

Classes:

1-Adelie : 0 refers to

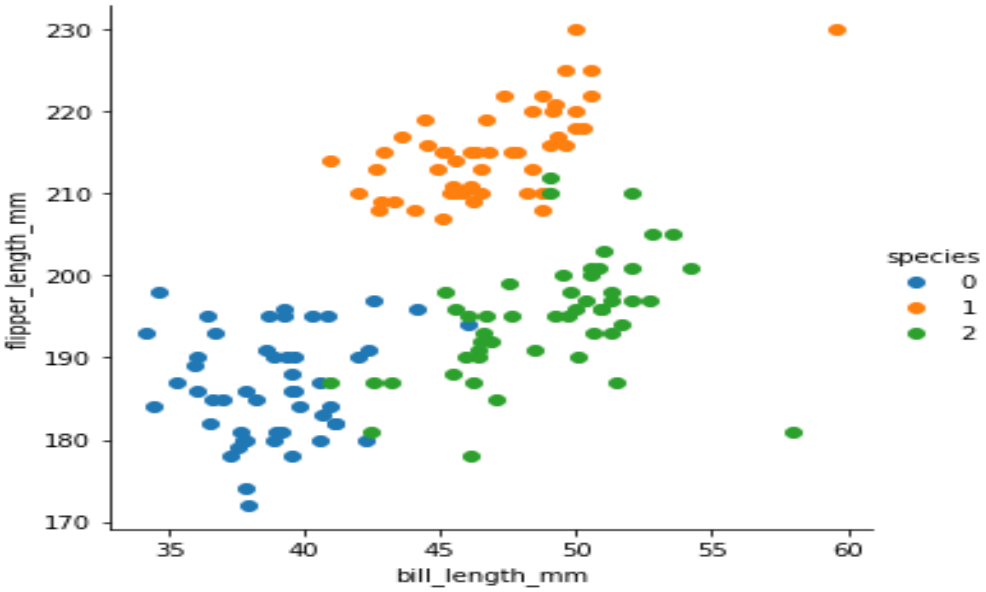
2- Gentoo: 1 refers to

3- Chinstrap : 2 refers to

Analysis this plot :

This plot represents the relation between (bill_ length _mm and flipper_length_mm in the three classes (0, 1 and 2).

1. classification between the 1 and the 0 with high accuracy
2. classification between 2 and 0 with high accuracy but not similar to the other ones because of a simple error and the similarity of the two classes at some points.
3. classification between 2 and the 1 with high accuracy but not similar to the other ones because of a simple error and the similarity of the two classes at some point



the visualizations of figure 1

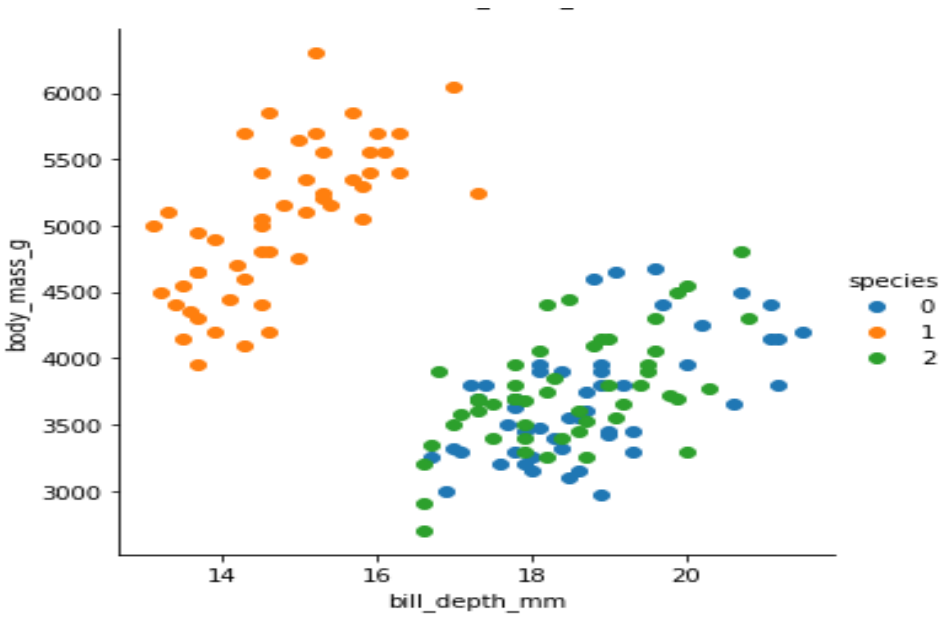
2-This plot represents the relation between (body_mass_g and bill_depth_mm in the three classes (0, 1 and 2).

Analysis this plot :

a. Classification between 0 and 2 is difficult (average accuracy) because of a simple error and the similarity of the two classes at some point .

b. classification between(1 and 0) with high accuracy

c. classification between (1 and 2)with high accuracy.



the visualizations of figure 2

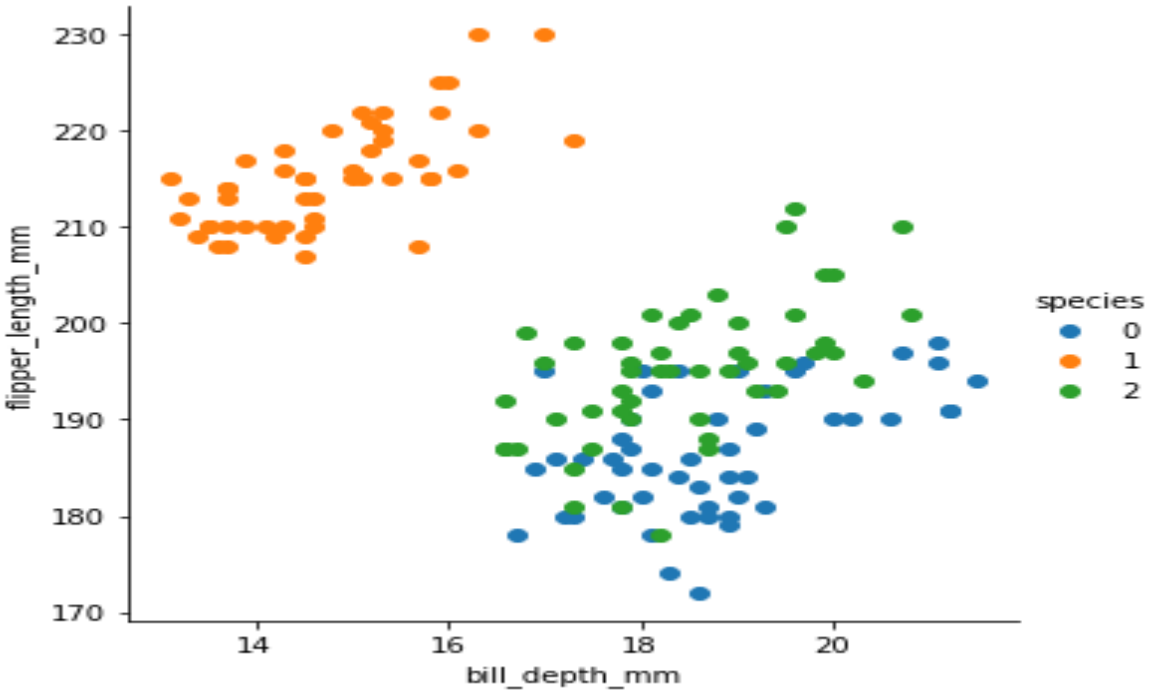
3- This plot presents the relation between flipper_length_mm and bill_depth_mm in the three classes (0,1,2) .And from that two features, (figure 3)

Analysis this plot :

1- Classification between 0 and 2 is difficult (average accuracy) because of a simple error and the similarity of the two classes at some point .

2-classification between(1 and 0) with high accuracy

3- classification between (1 and 2)with high accuracy.



the visualizations of figure 3

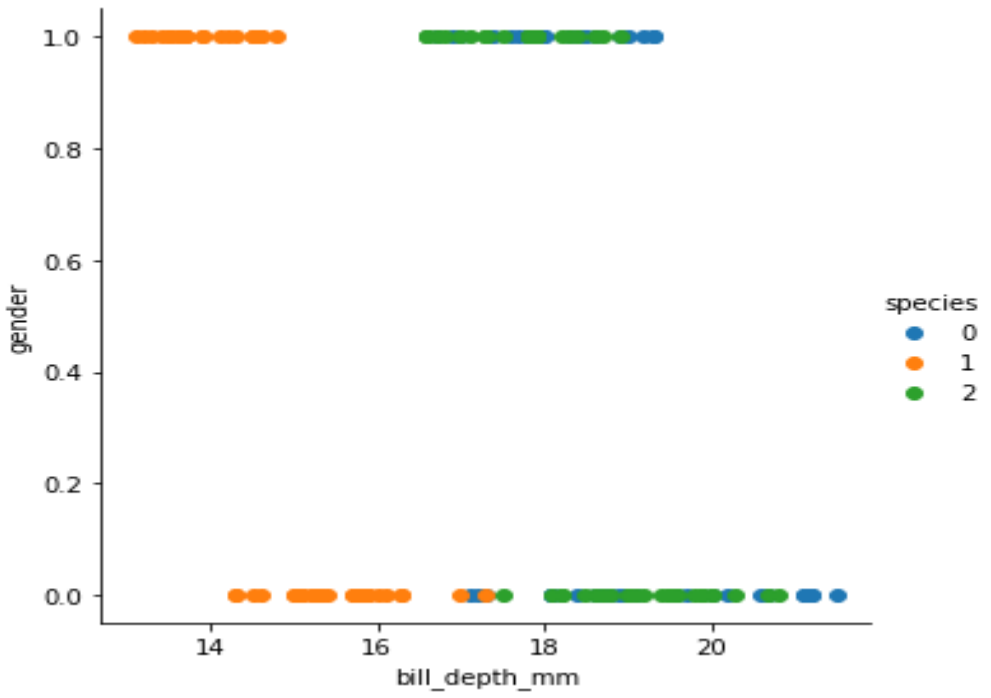
4- This plot presents the relation between gender and bill depth in the three classes (0,1,2) .And from that two features, (figure 4) the model can not classify between the three classes (classify with average accuracy)

Analysis this plot :

1- classification between(2 and 0) with average accuracy because of the similarity of the two classes at some points.

2- classification between (1 and the 0)with average accuracy because of the similarity of the two classes at some points.

3- classification between (1 and 2) with average accuracy because of the similarity of the two classes at some points.



the visualizations of figure 4

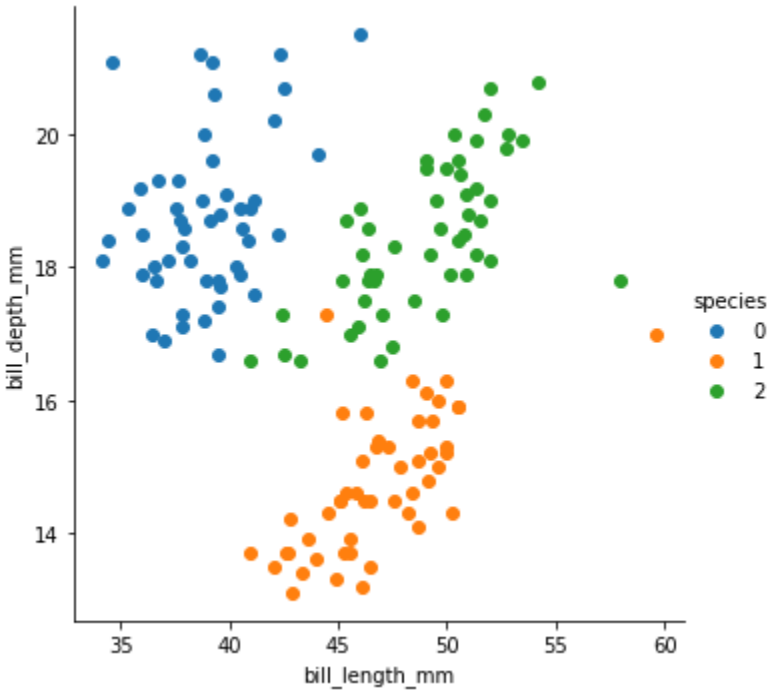
5- This plot presents the relation between bill depth and bill length in the three classes (0,1,2) . And from that two features(figure 5) the model can classify between the three classes with high accuracy (highest Accuracy)

Analysis this plot :

1. classification between (1and 2) with high accuracy but not similar to the other ones because of the simple error and outliers (almost perfect).

2. classification between (1 and 0) with high accuracy (perfect)

3. classification between (2 and 0) with high accuracy (perfect).



the visualizations of figure 5

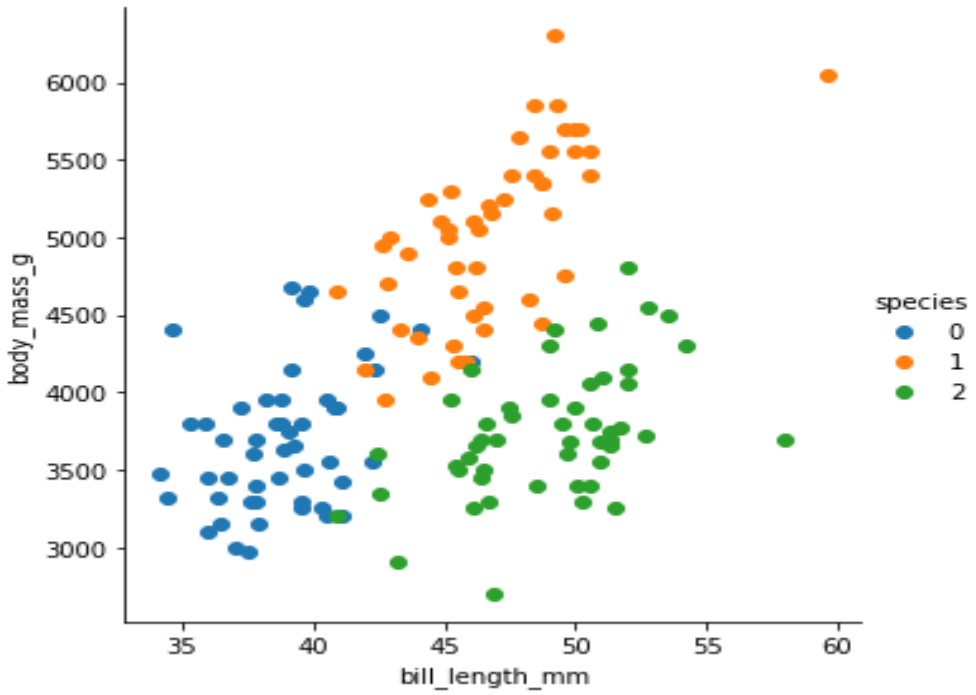
6- This plot presents the relation between body mass and bill length in the three classes (0,1,2) . And from that two features, (figure 6) the model can classify between the three classes with high accuracy (almost perfect).

Analysis this plot :

1. Classification between(1 and 0) with high accuracy (almost perfect) because of a simple error and the similarity of the two classes at some points.

2. Classification between (2 and 0) with high accuracy (almost perfect) because of a simple error and the similarity of the two classes at some points.

3. Classification between (1 and 2) with high accuracy (almost perfect) because of a simple error and the similarity of the two classes at some points.



the visualizations of figure 6

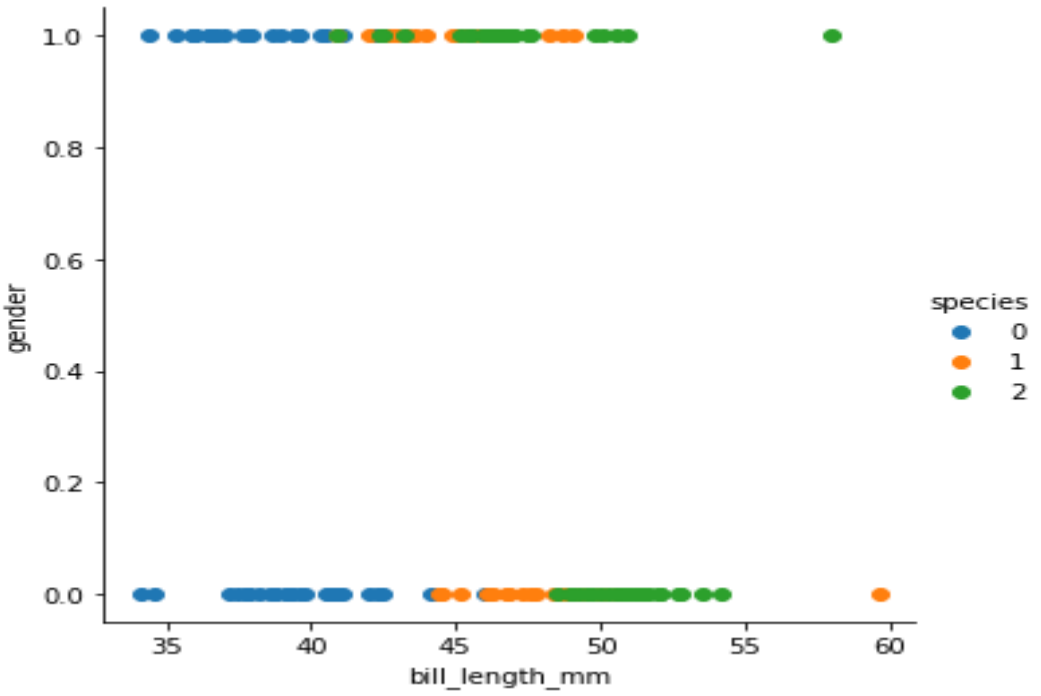
7-This plot presents the relation between gender and flipper length in the three classes of (0,1,2) . And from that two features, (figure 7) the model can not classify between the three classes (classify with average accuracy.

Analysis this plot :

1. classification between (2 and 0) with average accuracy because of the similarity of the two classes at some points.

2. classification between (1 and 0) with average accuracy because of the similarity of the two classes at some points.

3. classification between(1 and 2) with average accuracy because of the similarity of the two classes at some point



the visualizations of figure 7

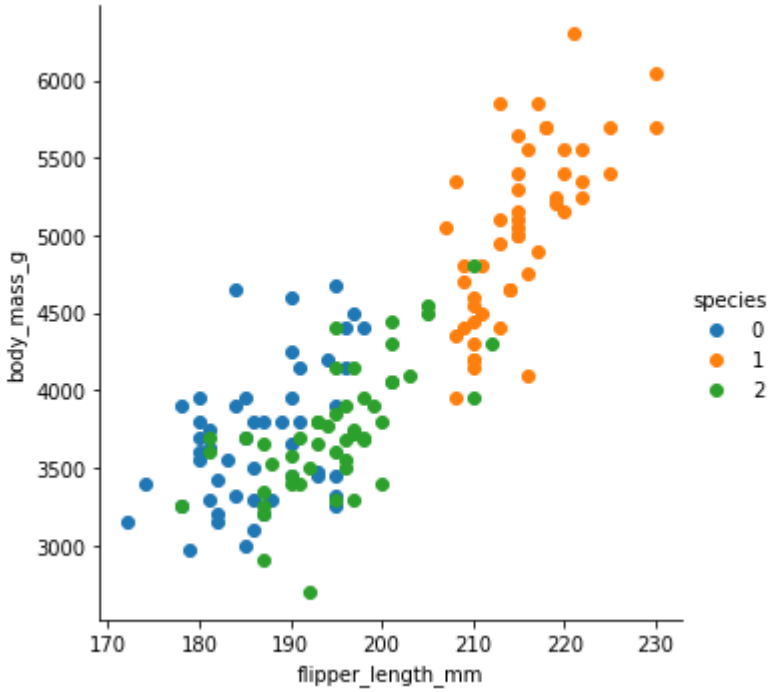
8- This plot presents the relation between body mass and flipper length in the three classes (0,1,2) .And from that two features, (figure8)

Analysis this plot :

1. classification between (1 and 0) with high accuracy.

2. classification between (2 and 0) with average accuracy because of a simple error and the similarity of the two classes at most of the points.

3. classification between (2 and 1) with high accuracy (almost perfect) because of a simple error and the similarity of the two classes at some points.



the visualizations of figure 8

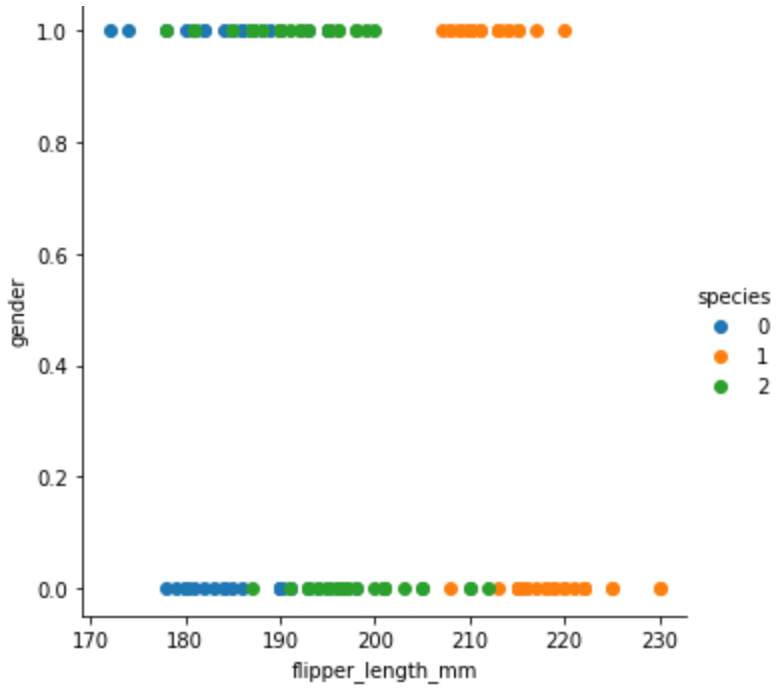
9- This plot presents the relation between gender and flipper length in the three classes of(0,1,2) . And from that two features, (figure 9) the model can not classify between the three classes (classify with average accuracy).

Analysis this plot :

1. classification between(2 and 0) with average accuracy because of the similarity of the two classes at some points.

2. classification between(1 and 0) with average accuracy because of the similarity of the two classes at some points.

3. classification between (1 and 2) with average accuracy because of the similarity of the two classes at some points.



the visualizations of figure 9

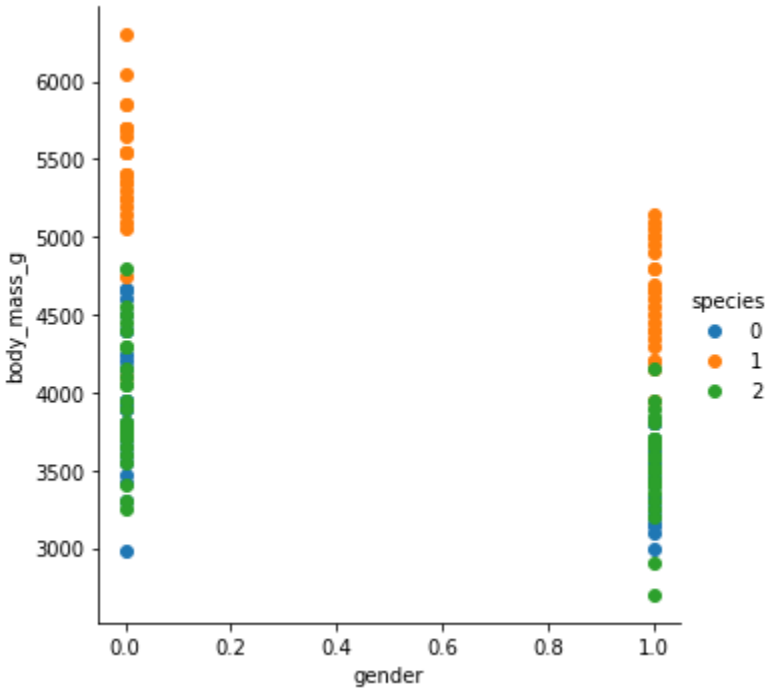
10- This plot presents the relation between body mass and gender in the three classes of (0,1,2) .And from that two features, (figure 10) the model can not classify between the three classes (classify with average accuracy).

Analysis this plot :

1. classification between(2 and 0)with average accuracy because of the similarity of the two classes at some points.

2. classification between(1 and 0) with average accuracy because of the similarity of the two classes at some points.

3. classification between (2 and 1) with average accuracy because of the similarity of the two classes at some points.



the visualizations of figure 10

Based on all these analyses

1. the features bill_depth _mm and bill_length_mm with accuracy = 97%
2. the features bill_length_mm and flipper_length_mm with accuracy = 55%
3. the features bill_length _mm and gender with accuracy = 57%
4. the features bill_length_mm and body_mass with accuracy = 55%
5. the features bill_depth _mm and flipper_length_mm with accuracy = 100%
6. the features bill_depth _mm and gender with accuracy = 70%
7. the features bill_depth _mm and body_mass_g with accuracy = 100%
8. the features gender and flipper_length_mm with accuracy = 55%
9. the features flippe_length_mm and body_mass with accuracy = 55%
10. the features body_mass and gender with accuracy = 55%