

Pandas Groupby Practice Sheet

Dataset: Run below code:

```
import seaborn as sns  
penguins = sns.load_dataset('penguins')
```

Question 1: Write a program to find the average bill_length_mm for each type of penguin species in the dataset.

Question 2: Write a program to determine the total number of penguins found on each island.

Question 3: Write a program to calculate the mean flipper_length_mm for each combination of species and gender.

Question 4: Write a program to calculate the average and median body_mass_g for each penguin species on each island.

Question 5: Write a program to identify the maximum bill_depth_mm for male and female penguins separately.

Question 6: Write a program to count how many different islands each penguin species inhabits.

Question 7: Write a program to calculate the range (difference between maximum and minimum) of flipper_length_mm and its standard deviation for each penguin species.

Question 8: Write a program to create a new column that shows how each penguin's body_mass_g compares to the average body_mass_g of its species.

Question 9: Write a program to identify the top 3 species-island combinations based on the highest average flipper_length_mm.

Question 10: Write a program to compute the ratio of the mean bill_length_mm to the mean bill_depth_mm for each species in the dataset.