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Data Science

Data Analysis

Data Analysis Palmer Penguins

**Prompt 1:**

|  |  |
| --- | --- |
| Variable | Class |
| Species | Factor |
| Sex | Factor |
| Island | Factor |
| Body Mass | Integer |
| Flipper Length | Integer |
| Bill length | Numeric |
| Bill Depth | Numeric |

|  |  |
| --- | --- |
| Variable | Level |
| Species | Adelie, Chinstrap, Gentoo |
| Sex | Female, Male |
| Island | Biscoe, Dream, Torgersen |
| Body Mass | Null |
| Flipper length | Null |
| Bill length | Null |
| Bill Depth | Null |

The variables species, sex, and island are categorical data and classify as factors that have levels. Body mass, and flipper length are integers, and Bill length and depth are numeric values that do not have levels.

**Prompt 2:**

The Bar graph that was generated depicts the quantity of penguins according to the species of the penguins

A screenshot

Description automatically generated

**Prompt 3:**

Summary Species

|  |  |
| --- | --- |
| Species | Quantity |
| Adelie | 152 |
| Chinstrap | 68 |
| Gentoo | 124 |

**Summary Body Mass:**

|  |  |
| --- | --- |
| Minimum | 2700 |
| 1st Quartile | 3550 |
| Median | 4050 |
| Mean | 4202 |
| 3rd Quartile | 4750 |
| Maximum | 6300 |
| NA | 2 |

**Summary Bill length:**

|  |  |
| --- | --- |
| Minimum | 172.0 |
| 1st Quartile | 190.0 |
| Median | 197.0 |
| Mean | 200.9 |
| 3rd Quartile | 213.0 |
| Maximum | 231.0 |
| NA | 2 |

**Summary Penguins:**

|  |  |
| --- | --- |
| **Sex** | **Quantity** |
| Female | 165 |
| Male | 168 |
| Na | 11 |

|  |  |
| --- | --- |
| **Species** | **Island** |
| Adelie: 152 | Biscoe:168 |
| Chinstrap:68 | Dream:124 |
| Gentoo:124 | Torgersen:52 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Min** | **1st Qu** | **Median** | **Mean** | **3rd Qu** | **Max** | **NA** |
| Bill length | 32.10 | 39.23 | 44.45 | 43.92 | 48.50 | 59.60 | 2 |
| Bill Depth | 13.10 | 15.60 | 17.30 | 17.15 | 18.70 | 21.50 | 2 |
| Flipper Length | 172.0 | 190.0 | 197.0 | 200.9 | 213.0 | 231.0 | 2 |
| Body Mass | 2700 | 3550 | 4050 | 4202 | 4750 | 6300 | 2 |

**Prompt 4:**

1. From the data we have learned that there are 3 types of penguins on 3 islands. The scatterplots showed us the missing data for the Palmer Penguins data set. This data analysis allowed us to see other variables such as bill length and depth.
2. Are there significant differences between the species and penguins and their flipper lengths?