



## POKÉMON STATISTICS

### Introduction

Welcome to the world of Pokémon! In this assignment, you will be using a dataset that contains information on various Pokémon, including their base stats such as HP, Attack, Defense, and Speed, as well as their type and generation. With this dataset, you will have the opportunity to explore and analyze the different characteristics of Pokémon, such as their strengths, weaknesses, and unique abilities. Whether you are a long-time Pokémon fan or new to the franchise, this assignment will provide an exciting opportunity to delve into the world of Pokémon and learn more about the fascinating creatures that inhabit it.

### Fire Pokmeon

Name	Generation	Attack	Defense	HP
Darmanitan	5	30	105	105
Talonflame	6	81	71	78
Pyroar	6	68	72	86
Growlithe	1	70	45	55
Torkoal	3	85	140	70
Charmander	1	52	43	39
Typhlosion	2	84	78	78
Magby	2	75	37	45
Moltres	1	100	90	90
Chimchar	4	58	44	44
Entei	2	115	85	115
Incineroar	7	115	90	95
Charizard	1	104	78	78
Infernape	4	104	71	76
Fennekin	6	45	40	40
Monferno	4	78	52	64
Pansear	5	53	48	50
Magcargo	2	50	120	60
Heatmor	5	97	66	85
Fletchinder	6	73	55	62

Table 1: Fire Type Pokemon

1. What is the mean attack value of the fire type Pokémon?
2. What does the mean attack value represent?
3. What is the median attack value of the fire type Pokémon?

4. In what circumstance might we prefer using median to mean? Why?

5. Which fire type Pokémon has the highest defense value?

6. What is the median HP value of the fire type Pokémon?

7. Which fire type Pokémon has the highest attack value?

8. Which fire type Pokémon has the lowest HP value?

9. Which fire type Pokémon has the highest total stat value?



## Water Pokémon

Name	Generation	Attack	Defense	HP
Magikarp	1	10	55	20
Marill	2	20	50	70
Carvanha	3	90	20	45
Wishiwashi	7	140	130	45
Feraligatr	2	105	100	85
Lotad	3	30	30	40
Clawitzer	6	73	88	71
Shellder	1	65	100	30
Mantyke	4	20	50	45
Relicanth	3	90	130	100
Carracosta	5	108	133	74
Brionne	7	69	69	60
Starmie	1	75	85	60
Buizel	4	65	35	55
Golduck	1	82	78	80
Sharpedo	3	140	70	70
Whiscash	3	78	73	110
Samurott	5	100	85	95
Lombre	3	50	50	60
Froakie	6	56	40	41

Table 2: Water Pokémon dataset

10. What is the mean attack value of the water type Pokémon?
11. What is the median value of the water type Pokémon?
12. Which water type Pokémon has the highest defense value?

13. What is the median HP value of the water type Pokémon?

14. Which water type Pokémon has the highest attack value?

15. Which water type Pokémon has the lowest HP value?

16. Which water type Pokémon has the highest total stat value?



## Grass Pokémon

Name	Generation	Attack	Defense	HP
Cherrim	4	60	70	70
Chespin	6	61	65	56
Shiinotic	7	45	80	60
Snivy	5	45	55	45
Amoonguss	5	85	70	114
Meganium	2	82	100	80
Weepinbell	1	90	50	65
Serperior	5	75	95	75
Pansage	5	53	48	50
Kartana	7	181	131	59
Skiddo	6	65	48	66
Whimsicott	5	67	85	60
Vileplume	1	80	85	75
Bounsweet	7	30	38	42
Nuzleaf	3	70	40	70
Cacnea	3	85	40	50
Tsareena	7	120	98	72
Roserade	4	70	65	60
Lilligant	5	60	75	70
Exeggute	1	40	80	60

Table 3: Grass Pokémon Dataset

17. What is the mean attack value of the grass type Pokémon?

18. What is the median value of the grass type Pokémon?

19. Which grass type Pokémon has the highest defense value?

20. What is the median HP value of the grass type Pokémon?

21. Which grass type Pokémon has the highest attack value?

22. Which grass type Pokémon has the lowest HP value?

23. Which grass type Pokémon has the highest total stat value?

## All Pokémon

24. Based on the statistics we gathered when examining fire, water, and grass Pokémon, which type would you choose?

25. If you had to select a specific Pokémon from every one we explored, which one would you choose? Why?

## Solutions

1. The mean attack value of the fire type Pokémon is 77.85.
2. The mean attack value represents the average attack value of all the fire type Pokémon in the dataset.
3. The median attack value of the fire type Pokémon is 73.5.
4. We might prefer using the median instead of the mean when the data is skewed or has extreme values, as the median is less affected by outliers than the mean. In such cases, the median may provide a more accurate representation of the typical value in the dataset.
5. Torkoal has the highest defense value among the fire type Pokémon, with a value of 140.
6. The median HP value of the fire type Pokémon is 70.
7. Kartana has the highest attack value among the fire type Pokémon, with a value of 181.
8. Magikarp has the lowest HP value among the fire type Pokémon, with a value of 20.
9. Moltres has the highest total stat value among the fire type Pokémon, with a value of 580.
10. The mean attack value of the water type Pokémon is 67.35.
11. The median value of the water type Pokémon is 65.
12. The water type Pokémon with the highest defense value is Carracosta, with a defense value of 133.
13. The median HP value of the water type Pokémon is 65.
14. The water type Pokémon with the highest attack value is Wishiwashi, with an attack value of 140.
15. The water type Pokémon with the lowest HP value is Shellder, with an HP value of 30.
16. The water type Pokémon with the highest total stat value is Wishiwashi, with a total stat value of 175.
17. The mean attack value of the grass type Pokémon is 66.2.
18. The median value of the grass type Pokémon is 61.
19. Among the grass type Pokémon, Ferrothorn has the highest defense value of 131.
20. The median HP value of the grass type Pokémon is 66.
21. Among the grass type Pokémon, Kartana has the highest attack value of 181.
22. Among the grass type Pokémon, Bounsweet has the lowest HP value of 42.
23. Among the grass type Pokémon, Kartana has the highest total stat value of 318.
24. Answers will vary.
25. Answers will vary.