**Theory Activity No. 1**

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Batch:Cs82

**20 Problem statements:**

|  |  |
| --- | --- |
| 1 | Find the total number of missing values in each column. |

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| --- | --- |
| 2 | Drop rows with any missing values. |

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| 3 | Find the unique part\_of\_speech values. |

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| 4 | Find the most frequent part\_of\_speech. |

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| 5 | Find the number of lemmas associated with each part\_of\_speech. |

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| 6 | Find the top 10 most common lemmas. |

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| 7 | Find how many lemmas have more than 3 synonyms. |

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| 8 | Find the lemma with the highest number of synonyms. |

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| 9 | Calculate the average number of synonyms per lemma. |

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| 10 | List all lemmas that have only one synonym. |

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| 11 | Find all synonyms containing the word "caliber". |

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| 12 | Replace all hyphens "-" in lemma and synonyms with spaces. |

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| 13 | Find all lemmas that are adjectives. |

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| 14 | Find the number of unique lemmas. |

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| 15 | Find the number of lemmas whose synonyms list contains duplicates. |

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| 16 | Create a new column num\_synonyms that counts synonyms for each lemma. |

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| 17 | Filter lemmas whose synonyms include themselves. |

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| 18 | Find lemmas with the shortest synonym list (excluding missing ones). |

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| 19 | Find lemmas where synonyms field includes a synonym with a number (e.g., "22", "38"). |

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| --- | --- |
| 20 | Find average synonym count per part\_of\_speech. |
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| **CODE:** |  |





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**OUTPUT:**

**1. Missing Values**

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**2. Rows after Dropna**

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**3. Unique Parts of Speech**

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**4. Most Frequent Part of Speech**

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**5. Lemma Count Per Part of Speech**

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**6. Top 10 Lemmas**

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**7. Number of Lemmas with >3 Synonyms**

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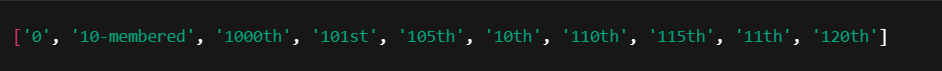
**8. Lemma with Most Synonyms**

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**9. Average Synonyms per Lemma**

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**10. Sample Lemmas with Exactly 1 Synonym**

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**11. Sample Synonyms Containing 'Caliber'**

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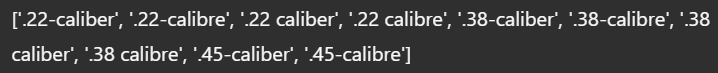
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**12. Hyphen Replaced in Lemma and Synonyms (Sample)**

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**13. Sample Adjective Lemmas**

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**14. Number of Unique Lemmas**

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**15. Number of Lemmas with Duplicate Synonyms**

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**16. Does 'num\_synonyms' Column Exist?**

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**17. Sample Lemmas with Themselves in Their Synonyms**

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**18. Sample Lemmas with Fewest Synonyms**

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**19. Sample Lemmas Whose Synonyms Contain Numbers**

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**20. Average Synonym Count Per Part of Speech**

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