

Research Task 5 – Part 1 Foundational LLM Questions, Queries & Answers

Q1. How many seasons are covered in this dataset? What's the range?

```
df["Season"].nunique(), df["Season"].min(), df["Season"].max()
```

- Answer: 73 seasons (1949–2021)

Q2. How many classes are included, and what are their names?

```
df["Class"].nunique(), df["Class"].unique().tolist()
```

- Answer: 9 classes → 125cc, 250cc, 350cc, 50cc, 80cc, Moto2™, Moto3™, MotoE™, MotoGP™

Q3. How many unique constructors appear in the dataset?

```
df["Constructor"].nunique()
```

- Answer: 36 constructors

Q4. Which constructor has the most total championships overall?

```
df["Constructor"].value_counts().head(1)
```

- Answer: Honda — 65 titles

Q5. For each class, which constructor has the most titles?

```
df.groupby(["Class","Constructor"]).size().reset_index(name="titles") \
.sort_values(["Class","titles"], ascending=[True,False]) \
.groupby("Class").head(1)
```

- Answer:
 - 125cc → Honda (14)
 - 250cc → Honda (16)
 - 350cc → MV Agusta (9)
 - 50cc → Kreidler (6)
 - 80cc → Derbi (4)
 - Moto2™ → Kalex (10)
 - Moto3™ → Honda (5)
 - MotoE™ → Energica (3)

- MotoGP™ → Honda (23)

Q6. Who were the latest season (2021) winners by class?

```
df[df["Season"] == df["Season"].max()][["Class", "Constructor", "Season"]]
```

- Answer (2021): Moto2™ = Kalex, Moto3™ = KTM, MotoE™ = Energica, MotoGP™ = Yamaha