```
import pandas as pd
df = pd.read_csv("scores.csv")
df.head()
```

| | Batch | User_ID | Score |
|---|---|---|---|
| 0 | AI_ELITE_7 | uid_149 | 6 / 7 |
| 1 | AI_ELITE_7 | uid_148 | 6 / 7 |
| 2 | AI_ELITE_7 | uid_147 | 7 / 7 |
| 3 | AI_ELITE_7 | uid_146 | 7 / 7 |
| 4 | AI_ELITE_7 | uid_145 | 4 / 7 |

Next steps: Generate code with df | New interactive sheet

```
df['Score'] = df['Score'].str.split('/').str[0].astype(int)
df.head()
```

| | Batch | User_ID | Score |
|---|---|---|---|
| 0 | AI_ELITE_7 | uid_149 | 6 |
| 1 | AI_ELITE_7 | uid_148 | 6 |
| 2 | AI_ELITE_7 | uid_147 | 7 |
| 3 | AI_ELITE_7 | uid_146 | 7 |
| 4 | AI_ELITE_7 | uid_145 | 4 |

Next steps: Generate code with df | New interactive sheet

```
df['Batch'].value_counts()
```

| Batch | count |
|---|---|
| AI_ELITE_7 | 53 |
| AI_ELITE_6 | 48 |
| AI_ELITE_4 | 48 |

**dtype:** int64

```
df.groupby('Batch')['Score'].mean()
```

| Batch | Score |
|---|---|
| AI_ELITE_4 | 3.791667 |
| AI_ELITE_6 | 4.229167 |
| AI_ELITE_7 | 5.056604 |

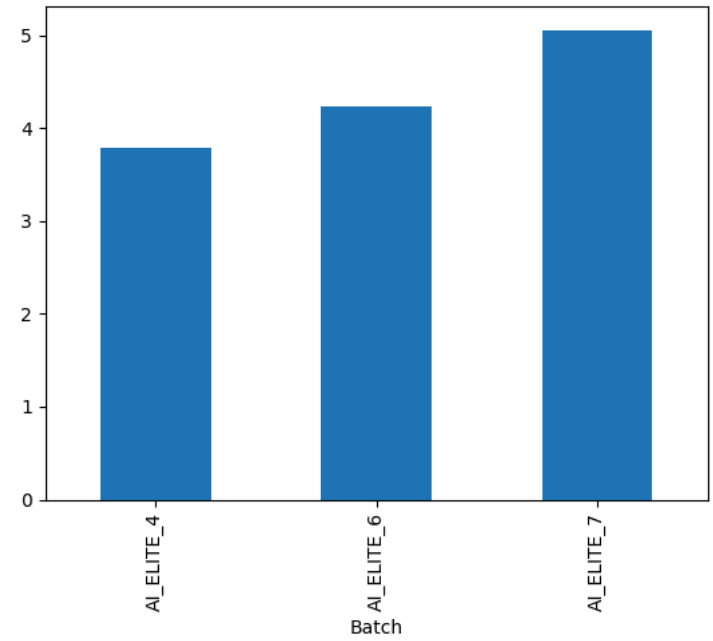
**dtype:** float64

```
df.groupby('Batch')['Score'].agg(['min','max'])
```

| Batch | min | max |
|---|---|---|
| AI_ELITE_4 | 0 | 7 |
| AI_ELITE_6 | 0 | 7 |
| AI_ELITE_7 | 2 | 7 |

```
df.groupby('Batch')['Score'].mean().plot(kind='bar')
```

```
<Axes: xlabel='Batch'>
```




**INSIGHTS:**

1. Batch-wise analysis helps in identifying top-performance and low-performance batches.
2. AI_ELITE_7 batch students have shown strong performance. Many students scored 6/7 and 7/7. Low scores are very few, indicating good understanding of ML concepts
3. AI_ELITE_6 batch shows mixed performance. Some students scored high while some scored very low . This indicates inconsistent learning outcomes.
4. AI_ELITE_4 batch has comparatively lower performance. Most students between 2/7 and 4/7. This batch needs more mentoring and practice
5. The score distribution suggests that higher-performing batches have better overall understanding.
6. Performance variation across batches highlights the need for batch-specific learning strategies.

**CONCLUSION:**

- The analysis of ML test scores highlights clear performance differences across batches.
- AI_ELITE_7 demonstrates strong overall understading of concepts.
- AI_ELITE_6 maintains moderate performance.
- AI_ELITE_4 requires additional academic support.

This analysis helps in understanding performance differences and planning better learning strategies.