

Python Summer Party Challenge

by Interview Master

Day 9 of 15

Meta

You are a Product Analyst on the Instagram Stories team investigating story creation patterns.

The team wants to understand the distribution of stories created by users daily. You will analyze user storytelling behavior to optimize engagement strategies.

Challenge Questions

Q1:

Take a look at the data in the `story_date` column. Correct any data type inconsistencies in that column.

Q2:

Calculate the 25th, 50th, and 75th percentiles of the number of stories created per user per day.

Q3:

What percentage of users have had at least one day, where they posted more than 10 stories on that day?



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My Solution - Q1

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```
# Convert date column to datetime, coerce invalid to NaT
stories_data['story_date'] = pd.to_datetime(
    stories_data['story_date'],
    errors='coerce',
    infer_datetime_format=True
)

# Normalize user_id column
stories_data['user_id'] = stories_data['user_id'].str.strip().
str.lower()

# Drop missing values
clean_data = stories_data.dropna().reset_index(drop=True)
print(clean_data)
```



My Solution - Q2

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```
# Get daily user stories
daily_user_stories = (
    clean_data.groupby(['user_id', 'story_date'])
    .agg(total_stories=('story_count', 'sum'))
    .reset_index()
)
print(f"Daily user stories:\n{daily_user_stories}")

# Calculate percentiles
percentiles = daily_user_stories['total_stories'].quantile([0.25, 0.5, 0.75])
print(f"\nPercentiles:\n{percentiles}")
```



My Solution - Q3

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```
# Number of users with > 10 stories in at least one day
high_stories_users = clean_data[clean_data['story_count'] > 10]['user_id'].unique()

# Calculate percentage
total_users = clean_data['user_id'].nunique()
percentage = (len(high_stories_users) / total_users) * 100

print(f"Total number of users: {total_users}")
print(f"Number of users with more than 10 stories: {len(high_stories_users)}")
print(f"Percentage of users with more than 10 stories: {percentage:.2f}%")
```

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