ASSIGNMENT 14

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```python
import pandas as pd

num_entries = int(input("Enter the number of entries: "))
dates = []
apps_opened = []

for _ in range(num_entries):
    date = input("Enter date (e.g., 20 nov): ")
    apps = input("Enter apps opened (comma-separated): ")
    dates.append(date)
    apps_opened.append(apps)

df = pd.DataFrame({"Date": dates, "apps opened": apps_opened})

def first_app_whatsapp_count():
    whatsapp_first_count = 0
    for apps in df["apps opened"]:
        if apps.split(",")[0].strip().lower() == "whatsapp":
            whatsapp_first_count += 1
    return whatsapp_first_count

def first_app_whatsapp_probability():
    total_days = len(df)
    whatsapp_first_count = first_app_whatsapp_count()
    return whatsapp_first_count / total_days

def second_app_whatsapp_probability():
    instagram_first_count = 0
    whatsapp_second_count = 0
```

```python
    for apps in df["apps opened"]:
        app_list = [app.strip().lower() for app in
apps.split(",")]
        if app_list[0] == "instagram":
            instagram_first_count += 1
            if len(app_list) > 1 and app_list[1] == "whatsapp":
                whatsapp_second_count += 1
    if instagram_first_count == 0:
        return 0
    else:
        return whatsapp_second_count / instagram_first_count


print()
print("Number of times WhatsApp was opened as the first app:",
first_app_whatsapp_count())
print("Probability of opening WhatsApp as the first app:",
first_app_whatsapp_probability())
print(
    "Probability of opening WhatsApp as the second app if
Instagram was opened first:",
    second_app_whatsapp_probability(),
)
```

OUTPUTS

```
Enter the number of entries: 6
Enter date (e.g., 20 nov): 18 NOV
Enter apps opened (comma-separated): whatsapp, instagram, youtube
Enter date (e.g., 20 nov): 19 NOV
Enter apps opened (comma-separated): instagram, whatsapp, twitter
Enter date (e.g., 20 nov): 20 NOV
Enter apps opened (comma-separated): youtube, gmail
Enter date (e.g., 20 nov): 21 NOV
Enter apps opened (comma-separated): youtube, whatsapp
Enter date (e.g., 20 nov): 22 NOV
Enter apps opened (comma-separated): whatsapp, instagram, youtube
Enter date (e.g., 20 nov): 23 NOV
Enter apps opened (comma-separated): whatsapp, instagram, whatsapp

Number of times WhatsApp was opened as the first app: 3
Probability of opening WhatsApp as the first app: 0.5
Probability of opening WhatsApp as the second app if Instagram was opened first: 1.0
```