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import pandas as pd
import matplotlib.pyplot as plt

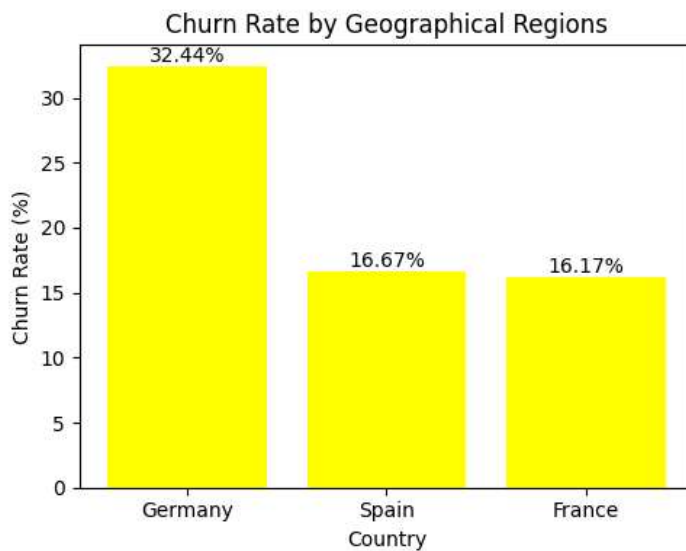
df = pd.read_csv("country-wise-churn.csv")
df = df.sort_values("country_churn_rate", ascending=False)

plt.figure(figsize=(5,4))
plt.bar(df["geography"], df["country_churn_rate"], color='yellow')
plt.title("Churn Rate by Geographical Regions")
plt.ylabel("Churn Rate (%)")
plt.xlabel("Country")

for i, v in enumerate(df["country_churn_rate"]):
    plt.text(i, v, f"{v}%", ha="center", va="bottom")

plt.tight_layout()
plt.show()

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plt.close('all')

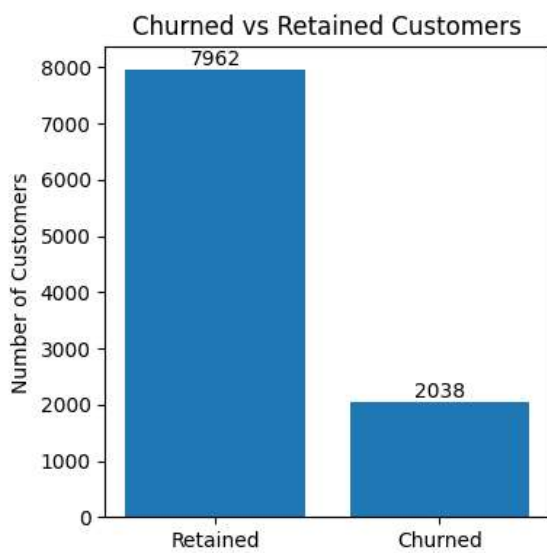
df = pd.read_csv("overall-churned-customers.csv")
df["exited"] = df["exited"].map({False: "Retained", True: "Churned"})

plt.figure(figsize=(4,4))
plt.bar(df["exited"], df["customers"])
plt.title("Churned vs Retained Customers")
plt.ylabel("Number of Customers")

for i, v in enumerate(df["customers"]):
    plt.text(i, v, str(v), ha="center", va="bottom")

plt.tight_layout()
plt.show()

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plt.close('all')

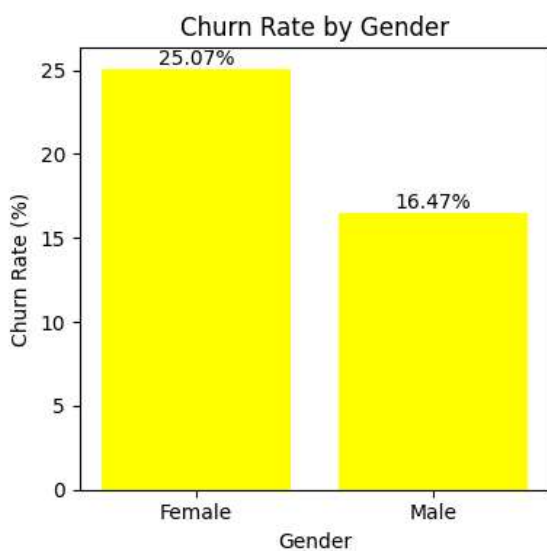
df = pd.read_csv("overall-churn-by-gender.csv")
df = df.sort_values("gender_churn_rate", ascending=False)

plt.figure(figsize=(4,4))
plt.bar(df["gender"], df["gender_churn_rate"], color='yellow')

plt.title("Churn Rate by Gender")
plt.ylabel("Churn Rate (%)")
plt.xlabel("Gender")

for i, v in enumerate(df["gender_churn_rate"]):
    plt.text(i, v, f"{v}%", ha="center", va="bottom")

plt.tight_layout()
plt.show()
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plt.close('all')

df = pd.read_csv("churn-by-activity.csv")
df["isactivemember"] = df["isactivemember"].map({
    False: "Inactive",
    True: "Active"
})

df = df.sort_values("churn_rate", ascending=False)

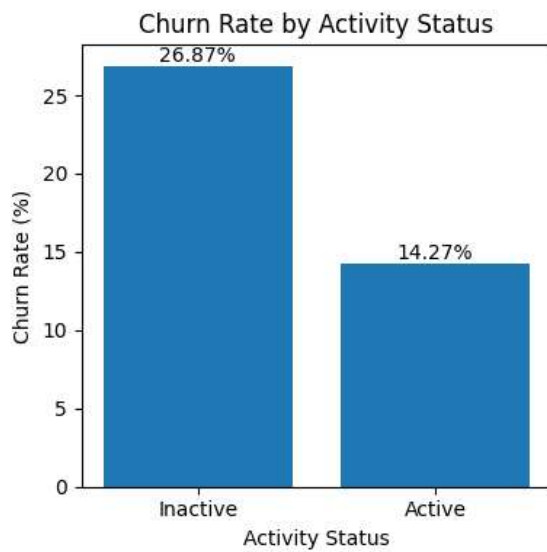
plt.figure(figsize=(4,4))
plt.bar(df["isactivemember"], df["churn_rate"])

plt.title("Churn Rate by Activity Status")
plt.ylabel("Churn Rate (%)")
```

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plt.xlabel("Activity Status")

for i, v in enumerate(df["churn_rate"]):
    plt.text(i, v, f"{v}%", ha="center", va="bottom")

plt.tight_layout()
plt.show()
```



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plt.close('all')

df = pd.read_csv("churn-by-product.csv")

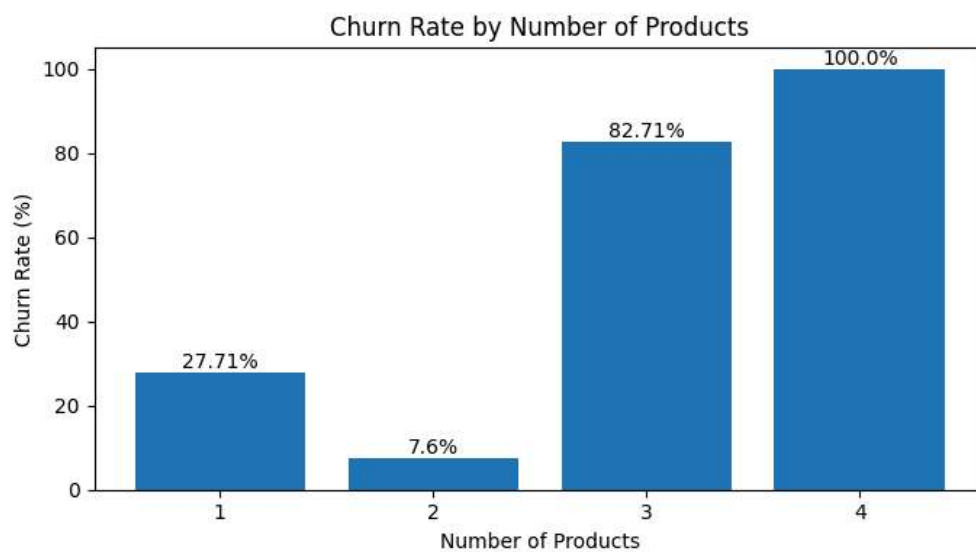
df = df.sort_values("numofproducts")

plt.figure(figsize=(7,4))
plt.bar(df["numofproducts"].astype(str), df["churn_rate"])

plt.title("Churn Rate by Number of Products")
plt.xlabel("Number of Products")
plt.ylabel("Churn Rate (%)")

for i, v in enumerate(df["churn_rate"]):
    plt.text(i, v, f"{v}%", ha="center", va="bottom")

plt.tight_layout()
plt.show()
```



```
plt.close('all')

df = pd.read_csv("churn-by-age-segment.csv")

plt.figure(figsize=(9,5))
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bars = plt.bar(df["age_segments"], df["churn_rate"], color='yellow')

plt.title("Churn Rate by Age Segment")
plt.ylabel("Churn Rate (%)")
plt.xlabel("Age Segment")
plt.xticks(rotation=45)

#churn-rate
for i, v in enumerate(df["churn_rate"]):
    plt.text(i, v, f"{v}%", ha="center", va="bottom")

#customer-count
for i, v in enumerate(df["customers"]):
    plt.text(i, 2, f"{v}", ha="center", va="bottom", fontsize=9)

plt.tight_layout()
plt.show()

```

