```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import random
```

```
df = pd.DataFrame(columns=['CustomerID','Age','Gender','MartialStatus','AnnualIncome (USD)','TotalPurchases','PreferredCategory'])
df
```

AnnualIncome

```
id = [1001,1002,1003,1004,1005]
age = [33,28,42,51,37]
gender = ['Male','Female','Male','Female','Male']
status = ['Married','Single','Married','Single','Divorced']
income = [65000,45000,55000,80000,58000]
purchases = [18,15,20,12,10]
category = ['Electronics','Appliances','Electronics','Electronics','Appliances']
```

```
random.seed(1)
app_choice = ['Electronics','Appliances']
status_choice = ['Married','Single','Divorced']
gender_choice = ['Male','Female']
for i in range(6,501):
  num = random.randint(0,2)
  Age = random.randint(15,80)
  g = random.choice(gender_choice)
  s = random.choice(status_choice)
  Income = random.randint(10000,100000)
  purchase = random.randint(1,100)
  cat = random.choice(app_choice)
  id.append(1000+i)
  age.append(Age)
  gender.append(g)
  income.append(Income)
  purchases.append(purchase)
  category.append(cat)
  status.append(s)
```

```
df['CustomerID'] = id
df['Age'] = age
df['Gender'] = gender
df['MartialStatus'] = status
df['AnnualIncome (USD)'] = income
df['TotalPurchases'] = purchases
df['PreferredCategory'] = category
df
```

	CustomerID	Age	Gender	MartialStatus	AnnualIncome (USD)	TotalPurchases	PreferredCategory
0	1001	33	Male	Married	65000	18	Electronics
1	1002	28	Female	Single	45000	15	Appliances
2	1003	42	Male	Married	55000	20	Electronics
3	1004	51	Female	Single	80000	12	Electronics
4	1005	37	Male	Divorced	58000	10	Appliances
...	...	...	...	...	...	...	...
495	1496	53	Male	Divorced	28127	83	Appliances
496	1497	77	Female	Divorced	14467	69	Electronics
497	1498	62	Male	Married	37980	51	Appliances
498	1499	49	Female	Divorced	54296	62	Appliances
499	1500	22	Male	Divorced	71593	23	Electronics

500 rows × 7 columns

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