



```
summary.style.format({'Average Price': "${:,.2f}",
                      'Total Revenue': '${:,.2f}'})
```

Out[19]:

	Number of Unique Items	Average Price	Number of Purchases	Total Revenue
0	179	\$3.05	780	\$2,379.77

In [36]:

```
# Gender Demographics
gender_data = purchase_data.groupby("Gender")

gender_count = gender_data.nunique()["SN"]

percent_of_players = gender_count / total_players * 100

gender = pd.DataFrame({"Percentage of Players": percent_of_players, "Total Count": g
gender.index.name = None

gender.sort_values(["Total Count"], ascending = False).style.format({"Percentage of
```

Out[36]:

	Percentage of Players	Total Count
Male	84.03	484
Female	14.06	81
Other / Non-Disclosed	1.91	11

In [38]:

```
#Purchasing Analysis (Gender)
purchase_count = gender_data["Purchase ID"].count()

avg_purchase_price = gender_data["Price"].mean()

total_purchase_value = gender_data["Price"].sum()

avg_purchase_per_person = avg_purchase_total/gender_count

gender = pd.DataFrame({"Purchase Count": purchase_count,
                        "Average Purchase Price": avg_purchase_price,
                        "Total Purchase Value":total_purchase_value,
                        "Avg Purchase Total per Person": avg_purchase_per_person})

gender.index.name = "Gender"

gender.style.format({"Average Purchase Value": "${:,.2f}",
                    "Average Purchase Price": "${:,.2f}",
                    "Avg Purchase Total per Person": "${:,.2f}"})
```

Out[38]:

	Purchase Count	Average Purchase Price	Total Purchase Value	Avg Purchase Total per Person
Gender				
Female	113	\$3.20	361.940000	\$4.47
Male	652	\$3.02	1967.640000	\$4.07
Other / Non-Disclosed	15	\$3.35	50.190000	\$4.56

```
In [39]: # Age Demographics
age_bins = [0, 9.90, 14.90, 19.90, 24.90, 29.90, 34.90, 39.90, 99999]
group_names = ["<10", "10-14", "15-19", "20-24", "25-29", "30-34", "35-39", "40+"]

purchase_data["Age Group"] = pd.cut(purchase_data["Age"],age_bins, labels=group_name
purchase_data

age_grouped = purchase_data.groupby("Age Group")

total_by_age = age_grouped["SN"].nunique()

percentage_by_age = (total_by_age/total_players) * 100

age_demographics = pd.DataFrame({"Percentage of Players": percentage_by_age, "Total
age_demographics.index.name = None

age_demographics.style.format({"Percentage of Players":"{:.2f}"})
```

Out[39]:

	Percentage of Players	Total Count
<10	2.95	17
10-14	3.82	22
15-19	18.58	107
20-24	44.79	258
25-29	13.37	77
30-34	9.03	52
35-39	5.38	31
40+	2.08	12

```
In [40]: # Purchasing Analysis (Age)
purchase_count_age = age_grouped["Purchase ID"].count()

avg_purchase_price_age = age_grouped["Price"].mean()

total_purchase_value = age_grouped["Price"].sum()

avg_purchase_per_person_age = total_purchase_value/total_by_age

age_df= pd.DataFrame({"Purchase Count": purchase_count_age,
                      "Average Purchase Price": avg_purchase_price_age,
                      "Total Purchase Value":total_purchase_value,
                      "Average Purchase Total per Person": avg_purchase_per_pe

age_df.index.name = None

age_df.style.format({"Average Purchase Price":"${:,.2f}",
                    "Total Purchase Value":"${:,.2f}",
                    "Average Purchase Total per Person":"${:,.2f}"})
```

Out[40]:

	Purchase Count	Average Purchase Price	Total Purchase Value	Average Purchase Total per Person
<10	23	\$3.35	\$77.13	\$4.54
10-14	28	\$2.96	\$82.78	\$3.76

	Purchase Count	Average Purchase Price	Total Purchase Value	Average Purchase Total per Person
15-19	136	\$3.04	\$412.89	\$3.86
20-24	365	\$3.05	\$1,114.06	\$4.32
25-29	101	\$2.90	\$293.00	\$3.81
30-34	73	\$2.93	\$214.00	\$4.12
35-39	41	\$3.60	\$147.67	\$4.76
40+	13	\$2.94	\$38.24	\$3.19

```
In [41]: #Top Spenders

spender_data = purchase_data.groupby("SN")

purchase_count_spender = spender_data["Purchase ID"].count()

avg_purchase_price_spender = spender_data["Price"].mean()

purchase_total_spender = spender_data["Price"].sum()

top_spenders = pd.DataFrame({"Purchase Count": purchase_count_spender,
                             "Average Purchase Price": avg_purchase_price_spender,
                             "Total Purchase Value": purchase_total_spender})

formatted_spenders = top_spenders.sort_values(["Total Purchase Value"], ascending=False)

formatted_spenders.style.format({"Average Purchase Total": "${:,.2f}",
                                "Average Purchase Price": "${:,.2f}",
                                "Total Purchase Value": "${:,.2f}"})
```

```
Out[41]:
```

	Purchase Count	Average Purchase Price	Total Purchase Value
SN			
Lisosia93	5	\$3.79	\$18.96
Idastidru52	4	\$3.86	\$15.45
Chamjask73	3	\$4.61	\$13.83
Iral74	4	\$3.40	\$13.62
Iskadarya95	3	\$4.37	\$13.10

```
In [42]: #Most Popular Items

items = purchase_data[["Item ID", "Item Name", "Price"]]

item_data = items.groupby(["Item ID", "Item Name"])

purchase_count_item = item_data["Price"].count()

purchase_value = (item_data["Price"].sum())

item_price = purchase_value/purchase_count_item
```

```
popular_items = pd.DataFrame({"Purchase Count": purchase_count_item,
                              "Item Price": item_price,
                              "Total Purchase Value": purchase_value})

popular_formatted = popular_items.sort_values(["Purchase Count"], ascending=False).h

popular_formatted.style.format({"Item Price": "${:,.2f}",
                              "Total Purchase Value": "${:,.2f}"})
```

Out[42]:

		Purchase Count	Item Price	Total Purchase Value
Item ID	Item Name			
92	Final Critic	13	\$4.61	\$59.99
178	Oathbreaker, Last Hope of the Breaking Storm	12	\$4.23	\$50.76
145	Fiery Glass Crusader	9	\$4.58	\$41.22
132	Persuasion	9	\$3.22	\$28.99
108	Extraction, Quickblade Of Trembling Hands	9	\$3.53	\$31.77

In [43]:

```
#Most Profitable Items
popular_formatted = popular_items.sort_values(["Total Purchase Value"],
                                              ascending=False).head()

popular_formatted.style.format({"Item Price": "${:,.2f}",
                              "Total Purchase Value": "${:,.2f}"})
```

Out[43]:

		Purchase Count	Item Price	Total Purchase Value
Item ID	Item Name			
92	Final Critic	13	\$4.61	\$59.99
178	Oathbreaker, Last Hope of the Breaking Storm	12	\$4.23	\$50.76
82	Nirvana	9	\$4.90	\$44.10
145	Fiery Glass Crusader	9	\$4.58	\$41.22
103	Singed Scalpel	8	\$4.35	\$34.80

In [ ]:

```
# Most of the players are in the age group of 20 to 24 year olds at 44.79%

# 35 - 39 year olds have the highest Average Purchase Total per Person,
# but as an age group their total purchase value was significantly
#Lower than the 20 -24 year olds with an total purchase value of $1,114.06.

# Most of the players are male, in comparison, only 14% were female.
```