

Note

- Instructions have been included for each segment. You do not have to follow them exactly, but they are included to help you think through the steps.

```
In [2]: # Dependencies and Setup
import pandas as pd
import numpy as np

# File to Load
file_to_load = "Resources/purchase_data.csv"

# Read Purchasing File and store into Pandas data frame
purchase_data = pd.read_csv(file_to_load)
purchase_data.head()
```

Out[2]:

| | Purchase ID | SN | Age | Gender | Item ID | Item Name | Price |
|---|-------------|---------------|-----|--------|---------|-------------------------------------------|-------|
| 0 | 0 | Lisim78 | 20 | Male | 108 | Extraction, Quickblade Of Trembling Hands | 3.53 |
| 1 | 1 | Lisovynya38 | 40 | Male | 143 | Frenzied Scimitar | 1.56 |
| 2 | 2 | Ithergue48 | 24 | Male | 92 | Final Critic | 4.88 |
| 3 | 3 | Chamassasya86 | 24 | Male | 100 | Blindscythe | 3.27 |
| 4 | 4 | Iskosia90 | 23 | Male | 131 | Fury | 1.44 |

Player Count

- Display the total number of players

```
In [3]: #get unique values for column Screen Name to determine num of unique players
players_df= purchase_data["SN"].unique()
total_players = len(players_df)
#create a summary data frame
total_players_df=pd.DataFrame({"Total Players": [total_players]})
total_players_df
```

Out[3]:

| | Total Players |
|---|---------------|
| 0 | 576 |

Purchasing Analysis (Total)

- Run basic calculations to obtain number of unique items, average price, etc.
- Create a summary data frame to hold the results
- Optional: give the displayed data cleaner formatting
- Display the summary data frame

In [4]: *#Get unique values for column item names to determine num of unique items*
 items_list = purchase_data["Item Name"].unique()

In [5]: *#Create and pass values to a summary data frame*
 cleaned_purchase=pd.DataFrame({"Number of Unique Items":[len(items_list)],
 "Number of Purchases":[len(purchase_data)],
 "Average Price":[purchase_data["Price"].mean()],
 "Total Revenue": [purchase_data["Price"].sum
 ()])
 cleaned_purchase.style.format({'Total Revenue': "\${0:,.2f}", 'Average Price':
 "\${0:,.2f}" })

Out[5]:

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

Gender Demographics

- Percentage and Count of Male Players
- Percentage and Count of Female Players
- Percentage and Count of Other / Non-Disclosed

```
In [6]: #Count male,female and other players
p = purchase_data["Gender"].value_counts()
#Calc percentage of players by gender
p_percent=p/len(purchase_data)*100
#pass values to Data Frame for display and formatting
gender_analysis=pd.DataFrame({"Total Count":p,"Percentage of Players":p_percent})
gender_analysis.style.format({'Percentage of Players': "{0:,.2f}%"})
```

Out[6]:

| | Total Count | Percentage of Players |
|-----------------------|-------------|-----------------------|
| Male | 652 | 83.59% |
| Female | 113 | 14.49% |
| Other / Non-Disclosed | 15 | 1.92% |

In []:

Purchasing Analysis (Gender)

* Run basic calculations to obtain purchase count, avg. purchase price, avg. purchase total per person etc. by gender * Create a summary data frame to hold the results * Optional: give the displayed data cleaner formatting * Display the summary data frame

```
In [7]: #Basic calc to find count,avg price, avg per person spent by gender
g_count=purchase_data.groupby(['Gender']).count()['SN'].rename("Total Purchase Count")
g_sum=purchase_data.groupby(['Gender']).sum()['Price'].rename("Total Purchase Value")
g_avg=purchase_data.groupby(['Gender']).mean()['Price'].rename("Average Purchase Value")
#Average purchase price per person
h= purchase_data.groupby(['Gender', 'SN']).agg({'Price': 'sum'})
Avgpp=h.groupby('Gender').mean()
#pass values to dataframe for display
purchase_analysis=pd.DataFrame({"Purchase Count": g_count,"Total Purchase Value":g_sum,"Average Purchase Value":g_avg})
```

```
In [8]: #update to data frame with the avg purchase price per person values
purchase_analysis['Avg Total Purchase per Person']=Avgpp
purchase_analysis.style.format({'Total Purchase Value':"${0:,.2f}", "Average Purchase Value":"${0:,.2f}", "Avg Total Purchase per Person":"${0:,.2f}"})
```

Out[8]:

| | Purchase Count | Total Purchase Value | Average Purchase Value | Avg Total Purchase per Person |
|------------------------------|----------------|----------------------|------------------------|-------------------------------|
| Gender | | | | |
| Female | 113 | \$361.94 | \$3.20 | \$4.47 |
| Male | 652 | \$1,967.64 | \$3.02 | \$4.07 |
| Other / Non-Disclosed | 15 | \$50.19 | \$3.35 | \$4.56 |

Age Demographics

- Establish bins for ages
- Categorize the existing players using the age bins. Hint: use pd.cut()
- Calculate the numbers and percentages by age group
- Create a summary data frame to hold the results
- Optional: round the percentage column to two decimal points
- Display Age Demographics Table

```
In [9]: #create age bins and label the bins
bins=[0,9,14,19,24,29,34,39,40]

group_names=["<10", "10-14", "15-19", "20-24", "25-29", "30-34", "35-39", "40+"]
#slice data into the above bins
purchase_data["Age Bracket"]=pd.cut(purchase_data["Age"],bins,labels=group_names)
```

```
In [10]: #Basic calc on the binned data to find count and percent of players by age bracket
bin_data = purchase_data.groupby("Age Bracket").agg({"Purchase ID":"count"})
bin_data['Percentage of Players']=bin_data["Purchase ID"]*100/len(purchase_data)
bin_data.style.format({'Percentage of Players': "{0:,.2f}%"})
```

Out[10]:

| | Purchase ID | Percentage of Players |
|-------------|-------------|-----------------------|
| Age Bracket | | |
| <10 | 23 | 2.95% |
| 10-14 | 28 | 3.59% |
| 15-19 | 136 | 17.44% |
| 20-24 | 365 | 46.79% |
| 25-29 | 101 | 12.95% |
| 30-34 | 73 | 9.36% |
| 35-39 | 41 | 5.26% |
| 40+ | 6 | 0.77% |

Purchasing Analysis (Age)

- Bin the purchase_data data frame by age
- Run basic calculations to obtain purchase count, avg. purchase price, avg. purchase total per person etc. in the table below
- Create a summary data frame to hold the results
- Optional: give the displayed data cleaner formatting
- Display the summary data frame

```
In [11]: purchase_bin1 = purchase_data.groupby("Age Bracket").count()["Purchase ID"]
purchase_bin2 = purchase_data.groupby("Age Bracket").mean()["Price"]
purchase_bin3 = purchase_data.groupby("Age Bracket").sum()["Price"]
#pass values to data frame for display
purchase_bin=pd.DataFrame({"Purchase Count":purchase_bin1,"Avg Purchase Price":purchase_bin2,"Total Purchase":purchase_bin3})
```

```
In [12]: #calc avg purchase total per person

i=purchase_data.groupby(['Age Bracket', 'SN']).agg({"Price": "sum"})
avppa=i.groupby(['Age Bracket']).mean()
#add the new column to existing data frame
purchase_bin['Average Total per Person']=avppa
purchase_bin.style.format({'Average Purchase Price': "${0:,.2f}", 'Total Purchase': "${0:,.2f}", "Average Total per Person": "${0:,.2f}"})
```

Out[12]:

| | Purchase Count | Avg Purchase Price | Total Purchase | Average Total per Person |
|-------------|----------------|--------------------|----------------|--------------------------|
| Age Bracket | | | | |
| <10 | 23 | 3.35348 | \$77.13 | \$4.54 |
| 10-14 | 28 | 2.95643 | \$82.78 | \$3.76 |
| 15-19 | 136 | 3.03596 | \$412.89 | \$3.86 |
| 20-24 | 365 | 3.05222 | \$1,114.06 | \$4.32 |
| 25-29 | 101 | 2.90099 | \$293.00 | \$3.81 |
| 30-34 | 73 | 2.93151 | \$214.00 | \$4.12 |
| 35-39 | 41 | 3.60171 | \$147.67 | \$4.76 |
| 40+ | 6 | 2.785 | \$16.71 | \$3.34 |

Top Spenders

```
In [ ]: * Run basic calculations to obtain the results in the table below

* Create a summary data frame to hold the results

* Sort the total purchase value column in descending order

* Optional: give the displayed data cleaner formatting

* Display a preview of the summary data frame
```

```
In [21]: #Badic calc to find count, avg price and total purchase value by person(Screen
name)
ts_count= purchase_data.groupby("SN").count()["Purchase ID"]
ts_avg =purchase_data.groupby("SN").mean()["Price"]
ts_sum=purchase_data.groupby("SN").sum()["Price"]
#Pass values to data frame for display
ts = pd.DataFrame({"Purchase Count":ts_count, "Average Purchase Price":ts_avg,
"Total Purchase Value":ts_sum})
ts_sorted = ts.sort_values("Total Purchase Value",ascending =False)
```

```
In [20]: ts_sorted.style.format({'Average Purchase Price': "${0:,.2f}", 'Total Purchase  
Value': "${0:,.2f}"})
```

Out[20]:

| | 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 |
| Ilarin91 | 3 | \$4.23 | \$12.70 |
| Ialallo29 | 3 | \$3.95 | \$11.84 |
| Tyidaim51 | 3 | \$3.94 | \$11.83 |
| Lassilsala30 | 3 | \$3.84 | \$11.51 |
| Chadolyla44 | 3 | \$3.82 | \$11.46 |
| Iri67 | 3 | \$3.79 | \$11.37 |
| Inguron55 | 3 | \$3.70 | \$11.11 |
| Siallylis44 | 3 | \$3.46 | \$10.37 |
| Saistypfos30 | 3 | \$3.44 | \$10.33 |
| Phyali88 | 3 | \$3.43 | \$10.30 |
| Strithenu87 | 3 | \$3.39 | \$10.18 |
| Lisim78 | 3 | \$3.34 | \$10.02 |
| Haillyrgue51 | 3 | \$3.17 | \$9.50 |
| Phistym51 | 2 | \$4.75 | \$9.50 |
| Lamil79 | 2 | \$4.64 | \$9.29 |
| Aina42 | 3 | \$3.07 | \$9.22 |
| Saesrideu94 | 2 | \$4.59 | \$9.18 |
| Arin32 | 2 | \$4.54 | \$9.09 |
| Rarallo90 | 3 | \$3.02 | \$9.05 |
| Baelollodeu94 | 2 | \$4.51 | \$9.03 |
| Aelin32 | 3 | \$2.99 | \$8.98 |
| Lisopela58 | 3 | \$2.95 | \$8.86 |
| Saedaiphos46 | 3 | \$2.94 | \$8.83 |
| Reunasu60 | 2 | \$4.41 | \$8.82 |
| Chanastnya43 | 3 | \$2.94 | \$8.82 |
| Raesty92 | 3 | \$2.91 | \$8.73 |
| Sundadar27 | 2 | \$4.35 | \$8.71 |
| Aerithllora36 | 2 | \$4.32 | \$8.64 |
| Hada39 | 3 | \$2.86 | \$8.57 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|----------------|----------------|------------------------|----------------------|
| SN | | | |
| Chamilsala65 | 2 | \$4.28 | \$8.55 |
| Silaera56 | 3 | \$2.83 | \$8.48 |
| Frichocesta66 | 2 | \$4.19 | \$8.37 |
| Chadista79 | 2 | \$4.17 | \$8.35 |
| Pheodaisun84 | 3 | \$2.77 | \$8.31 |
| Undosian34 | 2 | \$4.15 | \$8.30 |
| Idai61 | 3 | \$2.74 | \$8.23 |
| Lassimla92 | 2 | \$4.08 | \$8.17 |
| Umolrian85 | 3 | \$2.71 | \$8.13 |
| Zontibe81 | 3 | \$2.68 | \$8.03 |
| Sondastsda82 | 3 | \$2.63 | \$7.89 |
| Zhisrisu83 | 2 | \$3.94 | \$7.89 |
| Aidaillodeu39 | 2 | \$3.93 | \$7.86 |
| Sundirrala66 | 2 | \$3.89 | \$7.78 |
| Tyaelorap29 | 2 | \$3.85 | \$7.71 |
| Iaralsuir44 | 2 | \$3.81 | \$7.62 |
| Idaidil28 | 2 | \$3.79 | \$7.59 |
| Aiduecal76 | 2 | \$3.79 | \$7.58 |
| Chanosian48 | 2 | \$3.76 | \$7.52 |
| Malunil62 | 2 | \$3.76 | \$7.52 |
| Hiasri33 | 2 | \$3.75 | \$7.49 |
| Asur53 | 3 | \$2.48 | \$7.44 |
| Tyida79 | 2 | \$3.70 | \$7.39 |
| Ilosia37 | 2 | \$3.67 | \$7.35 |
| Eusri70 | 2 | \$3.67 | \$7.34 |
| Lirtilsa72 | 2 | \$3.67 | \$7.33 |
| Leyirra83 | 2 | \$3.65 | \$7.30 |
| Aelastirin39 | 2 | \$3.64 | \$7.29 |
| Siala43 | 2 | \$3.63 | \$7.26 |
| Pheosrinudeu70 | 2 | \$3.58 | \$7.16 |
| Halaecal66 | 2 | \$3.55 | \$7.11 |
| Quinarap53 | 2 | \$3.54 | \$7.07 |
| Idairin51 | 2 | \$3.50 | \$7.00 |
| Isri34 | 2 | \$3.48 | \$6.97 |
| Siarithria38 | 2 | \$3.46 | \$6.91 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|---------------|----------------|------------------------|----------------------|
| SN | | | |
| Haisrisuir60 | 2 | \$3.43 | \$6.86 |
| Lirtastsda29 | 2 | \$3.42 | \$6.84 |
| Aelly27 | 2 | \$3.39 | \$6.79 |
| Aithelis62 | 2 | \$3.39 | \$6.78 |
| Seudailorap38 | 2 | \$3.35 | \$6.71 |
| Yalae81 | 2 | \$3.34 | \$6.69 |
| Smaistysu35 | 2 | \$3.34 | \$6.69 |
| Phaelap26 | 2 | \$3.32 | \$6.64 |
| Assassasta79 | 2 | \$3.31 | \$6.63 |
| Sausosia74 | 2 | \$3.30 | \$6.61 |
| Lisast87 | 2 | \$3.30 | \$6.60 |
| Leetirraya83 | 2 | \$3.29 | \$6.58 |
| Chanastst38 | 2 | \$3.29 | \$6.58 |
| Heuli25 | 2 | \$3.28 | \$6.55 |
| Yadacal26 | 2 | \$3.27 | \$6.54 |
| Lassadarsda57 | 2 | \$3.25 | \$6.49 |
| Sondadar26 | 2 | \$3.24 | \$6.47 |
| Saelaephos52 | 2 | \$3.18 | \$6.36 |
| Chamimla85 | 3 | \$2.10 | \$6.30 |
| Lirtistanya48 | 2 | \$3.15 | \$6.30 |
| Chanossanya44 | 2 | \$3.14 | \$6.28 |
| Iasrira89 | 2 | \$3.12 | \$6.25 |
| Yathecal82 | 3 | \$2.07 | \$6.22 |
| Ilmoi66 | 2 | \$3.08 | \$6.17 |
| Chanirrala39 | 2 | \$3.08 | \$6.15 |
| Bartassaya73 | 2 | \$3.06 | \$6.12 |
| Ennrrian78 | 2 | \$3.04 | \$6.08 |
| Chadadarla74 | 2 | \$3.02 | \$6.03 |
| Yathedeu43 | 2 | \$3.01 | \$6.02 |
| Jiskimya77 | 2 | \$2.99 | \$5.98 |
| Tyeosri53 | 2 | \$2.96 | \$5.92 |
| Assistasda42 | 2 | \$2.96 | \$5.92 |
| Hari50 | 2 | \$2.96 | \$5.91 |
| Frichadaran88 | 2 | \$2.95 | \$5.89 |
| Eodailis27 | 2 | \$2.88 | \$5.76 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|-----------------|----------------|------------------------|----------------------|
| SN | | | |
| Anallorgue57 | 2 | \$2.85 | \$5.70 |
| Lisim51 | 2 | \$2.83 | \$5.66 |
| Sondim68 | 2 | \$2.83 | \$5.66 |
| Aelollo59 | 2 | \$2.82 | \$5.63 |
| Ardcil81 | 2 | \$2.79 | \$5.58 |
| Iarilis73 | 2 | \$2.75 | \$5.49 |
| Phaena87 | 3 | \$1.83 | \$5.49 |
| Mindesi74 | 2 | \$2.74 | \$5.48 |
| Undirrala66 | 2 | \$2.74 | \$5.47 |
| Sida61 | 2 | \$2.71 | \$5.43 |
| Lirtastsya71 | 2 | \$2.71 | \$5.43 |
| Chanosia60 | 2 | \$2.71 | \$5.42 |
| Aestysu37 | 2 | \$2.69 | \$5.38 |
| Pheosurllorin41 | 2 | \$2.69 | \$5.38 |
| Seosrim97 | 2 | \$2.68 | \$5.36 |
| Chamirra53 | 2 | \$2.68 | \$5.36 |
| Tyisur83 | 3 | \$1.79 | \$5.36 |
| Yadaphos40 | 2 | \$2.68 | \$5.35 |
| Undjaskla97 | 2 | \$2.66 | \$5.32 |
| Marynde90 | 2 | \$2.66 | \$5.31 |
| Maluncil97 | 2 | \$2.64 | \$5.28 |
| Marilsa69 | 2 | \$2.62 | \$5.25 |
| Eyrian71 | 2 | \$2.59 | \$5.19 |
| Caesrinusuir82 | 2 | \$2.59 | \$5.18 |
| Chanjaskan89 | 2 | \$2.58 | \$5.17 |
| Ilirrasda54 | 2 | \$2.53 | \$5.06 |
| Tyialisudeu65 | 2 | \$2.53 | \$5.05 |
| Dyally87 | 1 | \$4.99 | \$4.99 |
| Eusurdeu49 | 2 | \$2.47 | \$4.94 |
| Chanirrasta87 | 1 | \$4.94 | \$4.94 |
| Yarithsurgue62 | 1 | \$4.94 | \$4.94 |
| Ririp86 | 1 | \$4.94 | \$4.94 |
| Lirtilsa71 | 1 | \$4.94 | \$4.94 |
| Iskichinya81 | 2 | \$2.47 | \$4.94 |
| Mindossa76 | 1 | \$4.93 | \$4.93 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|----------------|----------------|------------------------|----------------------|
| SN | | | |
| Chadjask77 | 1 | \$4.93 | \$4.93 |
| Aeda94 | 1 | \$4.91 | \$4.91 |
| Aerithnuphos61 | 1 | \$4.91 | \$4.91 |
| Filurarn35 | 1 | \$4.91 | \$4.91 |
| Firan91 | 1 | \$4.91 | \$4.91 |
| Assilsan72 | 1 | \$4.90 | \$4.90 |
| Laedallo55 | 1 | \$4.90 | \$4.90 |
| Meosridil82 | 1 | \$4.90 | \$4.90 |
| Lisilsa62 | 1 | \$4.88 | \$4.88 |
| Ennalmol65 | 1 | \$4.88 | \$4.88 |
| Tyaelo67 | 1 | \$4.88 | \$4.88 |
| Ithergue48 | 1 | \$4.88 | \$4.88 |
| Poshilsa82 | 1 | \$4.86 | \$4.86 |
| Irithlis29 | 1 | \$4.86 | \$4.86 |
| Alaephos75 | 1 | \$4.84 | \$4.84 |
| Chamimla73 | 1 | \$4.80 | \$4.80 |
| Aeral97 | 1 | \$4.80 | \$4.80 |
| Maropast28 | 1 | \$4.76 | \$4.76 |
| Sundim98 | 1 | \$4.75 | \$4.75 |
| Yastyriaphos75 | 1 | \$4.75 | \$4.75 |
| Saena74 | 1 | \$4.74 | \$4.74 |
| Undotesta33 | 1 | \$4.74 | \$4.74 |
| Asur96 | 1 | \$4.74 | \$4.74 |
| Marirrasta50 | 1 | \$4.66 | \$4.66 |
| Lassassast73 | 1 | \$4.65 | \$4.65 |
| Chamalo71 | 1 | \$4.64 | \$4.64 |
| Filrion59 | 1 | \$4.64 | \$4.64 |
| Iathenudil29 | 1 | \$4.60 | \$4.60 |
| Risty84 | 1 | \$4.60 | \$4.60 |
| Aidai53 | 1 | \$4.60 | \$4.60 |
| Eratiel90 | 1 | \$4.60 | \$4.60 |
| Ina92 | 1 | \$4.58 | \$4.58 |
| Phiallylis33 | 1 | \$4.58 | \$4.58 |
| Ilosian36 | 1 | \$4.58 | \$4.58 |
| Ceoral34 | 1 | \$4.58 | \$4.58 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|---------------|----------------|------------------------|----------------------|
| SN | | | |
| Qilunan34 | 1 | \$4.58 | \$4.58 |
| Yoishirrala98 | 1 | \$4.58 | \$4.58 |
| Lirtossa60 | 2 | \$2.28 | \$4.56 |
| Eurithphos97 | 2 | \$2.27 | \$4.55 |
| Sondossa69 | 1 | \$4.48 | \$4.48 |
| Farusrian86 | 1 | \$4.48 | \$4.48 |
| Aiduesu86 | 1 | \$4.48 | \$4.48 |
| Ealrion88 | 1 | \$4.48 | \$4.48 |
| Yasur35 | 1 | \$4.48 | \$4.48 |
| Adastirin33 | 1 | \$4.48 | \$4.48 |
| Assastnya25 | 1 | \$4.48 | \$4.48 |
| Heosurnuru52 | 2 | \$2.23 | \$4.46 |
| Syally44 | 2 | \$2.23 | \$4.46 |
| Frichjask31 | 1 | \$4.43 | \$4.43 |
| Frichosia58 | 1 | \$4.43 | \$4.43 |
| Saerallora71 | 1 | \$4.43 | \$4.43 |
| Yarolwen77 | 1 | \$4.43 | \$4.43 |
| Iskjaskst81 | 2 | \$2.21 | \$4.42 |
| Yalostiphos68 | 1 | \$4.40 | \$4.40 |
| Haerithp41 | 1 | \$4.40 | \$4.40 |
| Chamiman85 | 1 | \$4.40 | \$4.40 |
| Jiskadarst60 | 1 | \$4.40 | \$4.40 |
| Tyaenasti87 | 1 | \$4.40 | \$4.40 |
| Ealiril69 | 1 | \$4.40 | \$4.40 |
| Haisurra41 | 1 | \$4.40 | \$4.40 |
| Aeral43 | 1 | \$4.40 | \$4.40 |
| Quaecjask96 | 1 | \$4.40 | \$4.40 |
| Tyaelaelis94 | 1 | \$4.40 | \$4.40 |
| Inasuir29 | 1 | \$4.40 | \$4.40 |
| Taeduenu92 | 1 | \$4.40 | \$4.40 |
| Sondim73 | 1 | \$4.40 | \$4.40 |
| Aerithnucal56 | 1 | \$4.40 | \$4.40 |
| Filrion83 | 1 | \$4.40 | \$4.40 |
| Lirtimst73 | 2 | \$2.19 | \$4.38 |
| Indcil77 | 1 | \$4.35 | \$4.35 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|----------------|----------------|------------------------|----------------------|
| SN | | | |
| Eoral49 | 1 | \$4.35 | \$4.35 |
| Marassa62 | 1 | \$4.35 | \$4.35 |
| Cosadar58 | 1 | \$4.35 | \$4.35 |
| Eyircil84 | 1 | \$4.35 | \$4.35 |
| Iskossasda43 | 1 | \$4.35 | \$4.35 |
| Assistasda90 | 1 | \$4.35 | \$4.35 |
| Ilaesudil92 | 1 | \$4.35 | \$4.35 |
| Lisossala30 | 1 | \$4.35 | \$4.35 |
| Marim28 | 2 | \$2.17 | \$4.33 |
| Aela59 | 1 | \$4.32 | \$4.32 |
| Chanossast57 | 1 | \$4.32 | \$4.32 |
| Chanjask65 | 1 | \$4.32 | \$4.32 |
| Sondimla25 | 1 | \$4.32 | \$4.32 |
| Ali84 | 2 | \$2.15 | \$4.31 |
| Lirtosia63 | 2 | \$2.15 | \$4.29 |
| Chadilsasta32 | 2 | \$2.15 | \$4.29 |
| Tyirinu79 | 1 | \$4.24 | \$4.24 |
| Syalollorap93 | 1 | \$4.24 | \$4.24 |
| Sidap51 | 1 | \$4.24 | \$4.24 |
| Ilimya66 | 1 | \$4.23 | \$4.23 |
| Rianistast50 | 1 | \$4.23 | \$4.23 |
| Quilassa66 | 1 | \$4.23 | \$4.23 |
| Quarrion42 | 1 | \$4.23 | \$4.23 |
| Frichirranya75 | 1 | \$4.23 | \$4.23 |
| Hyaduesu61 | 1 | \$4.23 | \$4.23 |
| Salilis27 | 1 | \$4.23 | \$4.23 |
| Aidaira26 | 1 | \$4.23 | \$4.23 |
| Lisirra87 | 1 | \$4.23 | \$4.23 |
| Mindista32 | 1 | \$4.23 | \$4.23 |
| Jiskjask80 | 1 | \$4.19 | \$4.19 |
| Lisico81 | 1 | \$4.19 | \$4.19 |
| Hiaral50 | 3 | \$1.40 | \$4.19 |
| Sisur91 | 1 | \$4.19 | \$4.19 |
| Pheutherin27 | 1 | \$4.18 | \$4.18 |
| Assylla81 | 1 | \$4.18 | \$4.18 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|---------------|----------------|------------------------|----------------------|
| SN | | | |
| Reulae52 | 1 | \$4.18 | \$4.18 |
| Mindimnya67 | 1 | \$4.18 | \$4.18 |
| Eulaestira36 | 2 | \$2.07 | \$4.14 |
| Tyialisti80 | 1 | \$4.14 | \$4.14 |
| Yarithrin84 | 1 | \$4.14 | \$4.14 |
| Aeralria27 | 1 | \$4.09 | \$4.09 |
| Yadaisuir65 | 1 | \$4.09 | \$4.09 |
| Rilaera56 | 1 | \$4.08 | \$4.08 |
| Isty55 | 1 | \$4.08 | \$4.08 |
| Fironon91 | 1 | \$4.08 | \$4.08 |
| Minduri31 | 1 | \$4.07 | \$4.07 |
| Iasurriacal29 | 1 | \$4.07 | \$4.07 |
| Tyeuduen32 | 1 | \$4.05 | \$4.05 |
| Undare39 | 2 | \$2.02 | \$4.04 |
| Sundjask71 | 1 | \$4.00 | \$4.00 |
| Aeral68 | 1 | \$4.00 | \$4.00 |
| Lisast98 | 1 | \$3.97 | \$3.97 |
| Chanuchi25 | 1 | \$3.97 | \$3.97 |
| Phaestycal84 | 2 | \$1.99 | \$3.97 |
| Eodaisu60 | 1 | \$3.94 | \$3.94 |
| Chadistaya75 | 1 | \$3.94 | \$3.94 |
| Frichaya88 | 1 | \$3.93 | \$3.93 |
| Chamadarsda63 | 1 | \$3.92 | \$3.92 |
| Aesty53 | 2 | \$1.96 | \$3.91 |
| Chadjask85 | 1 | \$3.87 | \$3.87 |
| Eulae84 | 1 | \$3.87 | \$3.87 |
| Mindiranya33 | 1 | \$3.87 | \$3.87 |
| Phaedue89 | 1 | \$3.85 | \$3.85 |
| Lisista54 | 2 | \$1.92 | \$3.83 |
| Pheusrical25 | 1 | \$3.82 | \$3.82 |
| Iduenu77 | 1 | \$3.82 | \$3.82 |
| Phaedasurap84 | 1 | \$3.82 | \$3.82 |
| Sondassasya91 | 1 | \$3.81 | \$3.81 |
| Hailaphos89 | 1 | \$3.81 | \$3.81 |
| Haeladil46 | 1 | \$3.81 | \$3.81 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|-----------------|----------------|------------------------|----------------------|
| SN | | | |
| Irillo49 | 1 | \$3.79 | \$3.79 |
| Lalossa38 | 1 | \$3.77 | \$3.77 |
| Haellysu29 | 1 | \$3.77 | \$3.77 |
| Undosia27 | 1 | \$3.77 | \$3.77 |
| Mindadaran26 | 1 | \$3.75 | \$3.75 |
| Yarithllodeu72 | 1 | \$3.75 | \$3.75 |
| Frichim77 | 2 | \$1.88 | \$3.75 |
| Firatan58 | 1 | \$3.75 | \$3.75 |
| Aellynun67 | 1 | \$3.74 | \$3.74 |
| Chanastsda67 | 1 | \$3.70 | \$3.70 |
| Nitherian58 | 2 | \$1.84 | \$3.69 |
| Tyeurith29 | 1 | \$3.65 | \$3.65 |
| Yalo85 | 1 | \$3.65 | \$3.65 |
| Lisosia66 | 1 | \$3.65 | \$3.65 |
| Raysistast71 | 1 | \$3.65 | \$3.65 |
| Iljask75 | 1 | \$3.61 | \$3.61 |
| Hilaerin92 | 1 | \$3.61 | \$3.61 |
| Chamistast30 | 1 | \$3.58 | \$3.58 |
| Tyeudariasuir90 | 1 | \$3.58 | \$3.58 |
| Chanastya70 | 1 | \$3.58 | \$3.58 |
| Yana46 | 1 | \$3.55 | \$3.55 |
| Frichosiala98 | 1 | \$3.54 | \$3.54 |
| Aethedru70 | 1 | \$3.54 | \$3.54 |
| Ilunyon70 | 1 | \$3.54 | \$3.54 |
| Tyaedainu44 | 1 | \$3.54 | \$3.54 |
| Lassassasda30 | 1 | \$3.54 | \$3.54 |
| Marokian45 | 1 | \$3.53 | \$3.53 |
| Marast30 | 1 | \$3.53 | \$3.53 |
| Firon67 | 1 | \$3.53 | \$3.53 |
| Aisurdru79 | 2 | \$1.75 | \$3.51 |
| Errian63 | 1 | \$3.49 | \$3.49 |
| Quanunwen42 | 1 | \$3.49 | \$3.49 |
| Lisasi93 | 2 | \$1.74 | \$3.48 |
| Heudai45 | 1 | \$3.47 | \$3.47 |
| Ryanara76 | 1 | \$3.47 | \$3.47 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|---------------|----------------|------------------------|----------------------|
| SN | | | |
| Heollyriap59 | 1 | \$3.47 | \$3.47 |
| Lisista27 | 1 | \$3.47 | \$3.47 |
| Undimsya85 | 1 | \$3.46 | \$3.46 |
| Yathecal72 | 1 | \$3.46 | \$3.46 |
| Iskim66 | 1 | \$3.46 | \$3.46 |
| Aidain51 | 1 | \$3.45 | \$3.45 |
| Sondistanya61 | 1 | \$3.45 | \$3.45 |
| Alaesu91 | 1 | \$3.45 | \$3.45 |
| Airi27 | 1 | \$3.45 | \$3.45 |
| Yarithrgue83 | 1 | \$3.45 | \$3.45 |
| Rairin89 | 1 | \$3.45 | \$3.45 |
| Undista85 | 1 | \$3.45 | \$3.45 |
| Lassirrasda85 | 1 | \$3.44 | \$3.44 |
| Peorith44 | 1 | \$3.44 | \$3.44 |
| Lisossanya98 | 1 | \$3.44 | \$3.44 |
| Yasrisu92 | 1 | \$3.44 | \$3.44 |
| Seolollo93 | 1 | \$3.41 | \$3.41 |
| Saena89 | 1 | \$3.41 | \$3.41 |
| Eodairu79 | 1 | \$3.40 | \$3.40 |
| Palyon91 | 1 | \$3.39 | \$3.39 |
| Isursuir31 | 1 | \$3.39 | \$3.39 |
| Rithe53 | 1 | \$3.39 | \$3.39 |
| Jiskirran77 | 1 | \$3.39 | \$3.39 |
| Assassa81 | 1 | \$3.39 | \$3.39 |
| Lisjaskan36 | 1 | \$3.36 | \$3.36 |
| Aerillorin70 | 1 | \$3.33 | \$3.33 |
| Quaranmol58 | 1 | \$3.33 | \$3.33 |
| Iasur80 | 2 | \$1.66 | \$3.32 |
| Indonmol95 | 1 | \$3.30 | \$3.30 |
| Eusri26 | 1 | \$3.27 | \$3.27 |
| Tyananurgue44 | 1 | \$3.27 | \$3.27 |
| Chamassasya86 | 1 | \$3.27 | \$3.27 |
| Pheulidil31 | 1 | \$3.27 | \$3.27 |
| Lirtassan78 | 1 | \$3.27 | \$3.27 |
| Raisty38 | 1 | \$3.27 | \$3.27 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|----------------|----------------|------------------------|----------------------|
| SN | | | |
| Alarap40 | 1 | \$3.27 | \$3.27 |
| Tyaelistidru84 | 1 | \$3.26 | \$3.26 |
| Lirtossa84 | 2 | \$1.62 | \$3.24 |
| Ialalrgue74 | 2 | \$1.61 | \$3.23 |
| Assirra56 | 1 | \$3.19 | \$3.19 |
| Iathem87 | 1 | \$3.19 | \$3.19 |
| Chanadar44 | 1 | \$3.19 | \$3.19 |
| Chadossa89 | 1 | \$3.19 | \$3.19 |
| Ialidru40 | 1 | \$3.16 | \$3.16 |
| Mindetosya30 | 1 | \$3.16 | \$3.16 |
| Chanista95 | 1 | \$3.16 | \$3.16 |
| Jiskossa61 | 1 | \$3.16 | \$3.16 |
| Idaisuir85 | 1 | \$3.15 | \$3.15 |
| Sondilsaya62 | 1 | \$3.14 | \$3.14 |
| Chamadar79 | 1 | \$3.14 | \$3.14 |
| Lirtirra37 | 1 | \$3.14 | \$3.14 |
| Lisossa25 | 2 | \$1.56 | \$3.12 |
| Iana95 | 1 | \$3.10 | \$3.10 |
| Ethriel85 | 1 | \$3.10 | \$3.10 |
| Asty82 | 1 | \$3.09 | \$3.09 |
| Eusri44 | 1 | \$3.09 | \$3.09 |
| Haedairiadru51 | 1 | \$3.09 | \$3.09 |
| Aina43 | 1 | \$3.09 | \$3.09 |
| Farrian71 | 1 | \$3.08 | \$3.08 |
| Aidai73 | 1 | \$3.08 | \$3.08 |
| Frichossala54 | 1 | \$3.08 | \$3.08 |
| Eosrirgue62 | 1 | \$3.08 | \$3.08 |
| Aellyria80 | 1 | \$3.08 | \$3.08 |
| Maridisya31 | 1 | \$3.08 | \$3.08 |
| Shaidanu32 | 1 | \$3.08 | \$3.08 |
| Hisridru55 | 1 | \$3.08 | \$3.08 |
| Quanrion96 | 1 | \$3.08 | \$3.08 |
| Iskosian40 | 1 | \$3.07 | \$3.07 |
| Chamadarnya73 | 1 | \$3.07 | \$3.07 |
| Heollyra92 | 1 | \$3.07 | \$3.07 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|----------------------|----------------|------------------------|----------------------|
| SN | | | |
| Chamirrasya33 | 2 | \$1.52 | \$3.05 |
| Yaliru88 | 1 | \$3.03 | \$3.03 |
| Marilsanya48 | 1 | \$3.03 | \$3.03 |
| Iskirra45 | 1 | \$3.03 | \$3.03 |
| Qilanrion65 | 1 | \$3.03 | \$3.03 |
| Aenarap34 | 1 | \$2.96 | \$2.96 |
| Tyalaesu89 | 1 | \$2.96 | \$2.96 |
| Aeralstical35 | 1 | \$2.96 | \$2.96 |
| Chanosia34 | 1 | \$2.96 | \$2.96 |
| Lisirra58 | 1 | \$2.96 | \$2.96 |
| Assjaskan56 | 1 | \$2.96 | \$2.96 |
| Tyeoralru41 | 1 | \$2.94 | \$2.94 |
| Lisassasda39 | 1 | \$2.94 | \$2.94 |
| Lisassala98 | 1 | \$2.92 | \$2.92 |
| Aillyrin83 | 1 | \$2.89 | \$2.89 |
| Undirra73 | 1 | \$2.89 | \$2.89 |
| Lisassa64 | 1 | \$2.89 | \$2.89 |
| Inasti31 | 2 | \$1.45 | \$2.89 |
| Lisjaskya84 | 1 | \$2.89 | \$2.89 |
| Eudanu32 | 1 | \$2.85 | \$2.85 |
| Thrientossa55 | 1 | \$2.85 | \$2.85 |
| Eustyria89 | 1 | \$2.85 | \$2.85 |
| Ililsan66 | 1 | \$2.85 | \$2.85 |
| Sundadarla27 | 1 | \$2.85 | \$2.85 |
| Chamjaskya75 | 1 | \$2.84 | \$2.84 |
| Ilosianya35 | 1 | \$2.84 | \$2.84 |
| Wailin72 | 1 | \$2.73 | \$2.73 |
| Maradaran90 | 1 | \$2.73 | \$2.73 |
| Hirirap39 | 2 | \$1.35 | \$2.71 |
| Marilsasya33 | 2 | \$1.35 | \$2.70 |
| Eulasuir89 | 1 | \$2.67 | \$2.67 |
| Eulolis41 | 1 | \$2.67 | \$2.67 |
| Frichadar89 | 1 | \$2.67 | \$2.67 |
| Mindjasksya61 | 1 | \$2.60 | \$2.60 |
| Sondassan80 | 1 | \$2.60 | \$2.60 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|-----------------|----------------|------------------------|----------------------|
| SN | | | |
| Lisirra25 | 1 | \$2.52 | \$2.52 |
| Chanilsasda38 | 1 | \$2.52 | \$2.52 |
| Hiarideu73 | 1 | \$2.50 | \$2.50 |
| Alim85 | 1 | \$2.50 | \$2.50 |
| Lisossa46 | 1 | \$2.50 | \$2.50 |
| Lassjaskan73 | 1 | \$2.50 | \$2.50 |
| Ermol76 | 1 | \$2.50 | \$2.50 |
| Tyidainu31 | 1 | \$2.49 | \$2.49 |
| Alaesu77 | 1 | \$2.49 | \$2.49 |
| Ethron58 | 1 | \$2.49 | \$2.49 |
| Lirtastan49 | 1 | \$2.48 | \$2.48 |
| Yadam35 | 1 | \$2.48 | \$2.48 |
| Siralsudeu54 | 2 | \$1.23 | \$2.45 |
| Sundassa93 | 1 | \$2.45 | \$2.45 |
| Syathecal44 | 1 | \$2.42 | \$2.42 |
| Malon70 | 1 | \$2.38 | \$2.38 |
| Yadanu52 | 1 | \$2.38 | \$2.38 |
| Mindilsa34 | 1 | \$2.37 | \$2.37 |
| Maradarnya40 | 1 | \$2.37 | \$2.37 |
| Palatyon26 | 1 | \$2.37 | \$2.37 |
| Adairialis76 | 1 | \$2.28 | \$2.28 |
| Quanenrian83 | 1 | \$2.27 | \$2.27 |
| Rastynusuir31 | 1 | \$2.27 | \$2.27 |
| Liawista80 | 1 | \$2.27 | \$2.27 |
| Lisiriya82 | 1 | \$2.27 | \$2.27 |
| Jiskjask60 | 1 | \$2.22 | \$2.22 |
| Ilassa51 | 1 | \$2.22 | \$2.22 |
| Ethralista69 | 1 | \$2.22 | \$2.22 |
| Rairith81 | 1 | \$2.22 | \$2.22 |
| Chamirraya83 | 1 | \$2.22 | \$2.22 |
| Aesur96 | 1 | \$2.21 | \$2.21 |
| Ili43 | 1 | \$2.18 | \$2.18 |
| Sastydeu50 | 1 | \$2.18 | \$2.18 |
| Itheria73 | 1 | \$2.18 | \$2.18 |
| Aerithriaphos46 | 1 | \$2.18 | \$2.18 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|----------------------|----------------|------------------------|----------------------|
| SN | | | |
| Malii90 | 1 | \$2.18 | \$2.18 |
| Marughi89 | 1 | \$2.18 | \$2.18 |
| Eurisuru25 | 1 | \$2.18 | \$2.18 |
| Chanilsast61 | 1 | \$2.08 | \$2.08 |
| Irith83 | 1 | \$2.07 | \$2.07 |
| Idacal95 | 1 | \$2.07 | \$2.07 |
| Tyaelly53 | 1 | \$2.07 | \$2.07 |
| Hariphos58 | 1 | \$2.05 | \$2.05 |
| Chamastya76 | 1 | \$2.05 | \$2.05 |
| Seuthep89 | 1 | \$2.05 | \$2.05 |
| Frichast28 | 1 | \$2.05 | \$2.05 |
| Thryallym62 | 1 | \$2.05 | \$2.05 |
| Jeyciman68 | 1 | \$2.05 | \$2.05 |
| Chadirra90 | 1 | \$2.05 | \$2.05 |
| Chamast86 | 1 | \$2.05 | \$2.05 |
| Illast79 | 1 | \$2.05 | \$2.05 |
| Ethrasyon38 | 1 | \$2.04 | \$2.04 |
| Lisadar44 | 1 | \$1.98 | \$1.98 |
| Hiral75 | 1 | \$1.98 | \$1.98 |
| Chadossa56 | 1 | \$1.98 | \$1.98 |
| Haestyphos66 | 1 | \$1.97 | \$1.97 |
| Raillydeu47 | 1 | \$1.97 | \$1.97 |
| Chanosiaya39 | 1 | \$1.97 | \$1.97 |
| Ilastilis78 | 1 | \$1.97 | \$1.97 |
| Siana77 | 1 | \$1.97 | \$1.97 |
| Lassjask63 | 1 | \$1.94 | \$1.94 |
| Undirra89 | 1 | \$1.94 | \$1.94 |
| Lisassasta50 | 1 | \$1.94 | \$1.94 |
| Lisotesta51 | 1 | \$1.94 | \$1.94 |
| Jiskassa76 | 1 | \$1.87 | \$1.87 |
| Ristydr66 | 1 | \$1.87 | \$1.87 |
| Aisurria69 | 1 | \$1.79 | \$1.79 |
| Frichaststa61 | 1 | \$1.79 | \$1.79 |
| Aelaria33 | 1 | \$1.79 | \$1.79 |
| Eosurdru76 | 1 | \$1.79 | \$1.79 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|--------------|----------------|------------------------|----------------------|
| SN | | | |
| Undilsan50 | 1 | \$1.79 | \$1.79 |
| Eulanurin88 | 1 | \$1.79 | \$1.79 |
| Phiristi62 | 1 | \$1.79 | \$1.79 |
| Indirrian56 | 1 | \$1.77 | \$1.77 |
| Sundista37 | 1 | \$1.77 | \$1.77 |
| Chamossa77 | 1 | \$1.77 | \$1.77 |
| Qilatista90 | 1 | \$1.76 | \$1.76 |
| Aesri53 | 1 | \$1.76 | \$1.76 |
| Undassa89 | 1 | \$1.76 | \$1.76 |
| Saisrilis27 | 1 | \$1.75 | \$1.75 |
| Iarallo65 | 1 | \$1.75 | \$1.75 |
| Assehoan67 | 1 | \$1.75 | \$1.75 |
| Sondadarya58 | 1 | \$1.75 | \$1.75 |
| Marundi65 | 1 | \$1.75 | \$1.75 |
| Ennoncil86 | 1 | \$1.74 | \$1.74 |
| Lisista63 | 1 | \$1.74 | \$1.74 |
| Tyaerith73 | 1 | \$1.71 | \$1.71 |
| Iadueria43 | 1 | \$1.71 | \$1.71 |
| Assim27 | 1 | \$1.70 | \$1.70 |
| Arirgue63 | 1 | \$1.70 | \$1.70 |
| Assjaskan73 | 1 | \$1.70 | \$1.70 |
| Eoralrap26 | 1 | \$1.70 | \$1.70 |
| Layjask75 | 1 | \$1.70 | \$1.70 |
| Haerith37 | 1 | \$1.66 | \$1.66 |
| Hallysucal81 | 1 | \$1.66 | \$1.66 |
| Iasursti71 | 1 | \$1.66 | \$1.66 |
| Styaduen40 | 1 | \$1.66 | \$1.66 |
| Ilassast39 | 1 | \$1.63 | \$1.63 |
| Frichynde86 | 1 | \$1.63 | \$1.63 |
| Phistyn52 | 1 | \$1.63 | \$1.63 |
| Aeri84 | 1 | \$1.61 | \$1.61 |
| Hiasurria41 | 1 | \$1.61 | \$1.61 |
| Eusur90 | 1 | \$1.60 | \$1.60 |
| Ingatcil75 | 1 | \$1.56 | \$1.56 |
| Pheodai94 | 1 | \$1.56 | \$1.56 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|-----------------|----------------|------------------------|----------------------|
| SN | | | |
| Lirtirra81 | 1 | \$1.56 | \$1.56 |
| Aerithriaphos45 | 1 | \$1.56 | \$1.56 |
| Lisovynya38 | 1 | \$1.56 | \$1.56 |
| Ardonmol96 | 1 | \$1.55 | \$1.55 |
| Isursti83 | 1 | \$1.54 | \$1.54 |
| Heunadil74 | 1 | \$1.54 | \$1.54 |
| Assesi91 | 1 | \$1.54 | \$1.54 |
| Chanirra64 | 1 | \$1.54 | \$1.54 |
| Qarirwen82 | 1 | \$1.54 | \$1.54 |
| Eolan54 | 1 | \$1.54 | \$1.54 |
| Phiarithdeu40 | 1 | \$1.48 | \$1.48 |
| Minduli80 | 1 | \$1.44 | \$1.44 |
| Iskosia90 | 1 | \$1.44 | \$1.44 |
| Thourdirra92 | 1 | \$1.44 | \$1.44 |
| Marjask87 | 1 | \$1.44 | \$1.44 |
| Frichilsa31 | 1 | \$1.44 | \$1.44 |
| Malarrrian73 | 1 | \$1.40 | \$1.40 |
| Syathe73 | 1 | \$1.40 | \$1.40 |
| Jiskjask85 | 1 | \$1.33 | \$1.33 |
| Assosia88 | 1 | \$1.33 | \$1.33 |
| Iskim96 | 1 | \$1.33 | \$1.33 |
| Sally64 | 1 | \$1.33 | \$1.33 |
| Lirtim36 | 1 | \$1.33 | \$1.33 |
| Shidai42 | 1 | \$1.33 | \$1.33 |
| Philodil43 | 1 | \$1.29 | \$1.29 |
| Eyista89 | 1 | \$1.29 | \$1.29 |
| Mindilsa60 | 1 | \$1.28 | \$1.28 |
| Tyarithn67 | 1 | \$1.14 | \$1.14 |
| Aisur51 | 1 | \$1.14 | \$1.14 |
| Ilista82 | 1 | \$1.14 | \$1.14 |
| Jiskimsda56 | 1 | \$1.14 | \$1.14 |
| Aillyriadru65 | 1 | \$1.10 | \$1.10 |
| Eryon48 | 1 | \$1.10 | \$1.10 |
| Iduelis31 | 1 | \$1.10 | \$1.10 |
| Yasur85 | 1 | \$1.10 | \$1.10 |

| | Purchase Count | Average Purchase Price | Total Purchase Value |
|---------------|----------------|------------------------|----------------------|
| SN | | | |
| Undjask33 | 1 | \$1.10 | \$1.10 |
| Lirtassa52 | 1 | \$1.09 | \$1.09 |
| Aelidru27 | 1 | \$1.09 | \$1.09 |
| Yalaeria91 | 1 | \$1.06 | \$1.06 |
| Aesurstilis64 | 1 | \$1.03 | \$1.03 |
| Saida58 | 1 | \$1.03 | \$1.03 |
| Euthe35 | 1 | \$1.03 | \$1.03 |
| Hala31 | 1 | \$1.02 | \$1.02 |
| Qilalista41 | 1 | \$1.02 | \$1.02 |
| Frichjaskan98 | 1 | \$1.02 | \$1.02 |
| Isurria36 | 1 | \$1.02 | \$1.02 |
| Eudanu84 | 1 | \$1.02 | \$1.02 |
| Ililsasya43 | 1 | \$1.02 | \$1.02 |
| Irilis75 | 1 | \$1.02 | \$1.02 |
| Aidai61 | 1 | \$1.01 | \$1.01 |
| Chanirra79 | 1 | \$1.01 | \$1.01 |
| Alo38 | 1 | \$1.00 | \$1.00 |

Most Popular Items

- Retrieve the Item ID, Item Name, and Item Price columns
- Group by Item ID and Item Name. Perform calculations to obtain purchase count, item price, and total purchase value
- Create a summary data frame to hold the results
- Sort the purchase count column in descending order
- Optional: give the displayed data cleaner formatting
- Display a preview of the summary data frame


```
In [33]: #Calculate price, count, total purchase value by item id and item name
popular_items=purchase_data.groupby(["Item ID", "Item Name", "Price"]).agg({"Purchase ID": "count", "Price": {"Total Purchase Value": "sum"}})
popular_items.columns=popular_items.columns.droplevel(level=0)
popular_items_sorted=popular_items.sort_values("count", ascending=False)

#format the values to show $ for currency

popular_items_sorted.style.format({'Price': "${0:,.2f}", 'Total Purchase Value': "${0:,.2f}"})
```

```
C:\Users\mamsh\Anaconda3\lib\site-packages\pandas\core\groupby\generic.py:131
5: FutureWarning: using a dict with renaming is deprecated and will be remove
d in a future version
    return super(DataFrameGroupBy, self).aggregate(arg, *args, **kwargs)
```

Out[33]:

| | | | count | Total Purchase Value |
|---------|----------------------------------------------|-------|-------|----------------------|
| Item ID | Item Name | Price | | |
| 178 | Oathbreaker, Last Hope of the Breaking Storm | 4.23 | 12 | \$50.76 |
| 145 | Fiery Glass Crusader | 4.58 | 9 | \$41.22 |
| 108 | Extraction, Quickblade Of Trembling Hands | 3.53 | 9 | \$31.77 |
| 82 | Nirvana | 4.9 | 9 | \$44.10 |
| 19 | Pursuit, Cudgel of Necromancy | 1.02 | 8 | \$8.16 |
| 103 | Singed Scalpel | 4.35 | 8 | \$34.80 |
| 75 | Brutality Ivory Warmace | 2.42 | 8 | \$19.36 |
| 72 | Winter's Bite | 3.77 | 8 | \$30.16 |
| 60 | Wolf | 3.54 | 8 | \$28.32 |
| 59 | Lightning, Etcher of the King | 4.23 | 8 | \$33.84 |
| 37 | Shadow Strike, Glory of Ending Hope | 3.16 | 8 | \$25.28 |
| 34 | Retribution Axe | 2.22 | 8 | \$17.76 |
| 92 | Final Critic | 4.88 | 8 | \$39.04 |
| 53 | Vengeance Cleaver | 2.05 | 7 | \$14.35 |
| 110 | Suspension | 1.44 | 7 | \$10.08 |
| 7 | Thorn, Satchel of Dark Souls | 1.33 | 7 | \$9.31 |
| 71 | Demise | 1.61 | 7 | \$11.27 |
| 117 | Heartstriker, Legacy of the Light | 1.79 | 7 | \$12.53 |
| 159 | Oathbreaker, Spellblade of Trials | 3.08 | 7 | \$21.56 |
| 85 | Malificent Bag | 1.75 | 7 | \$12.25 |
| 164 | Exiled Doomblade | 1.63 | 7 | \$11.41 |
| 141 | Persuasion | 3.19 | 7 | \$22.33 |
| 78 | Glimmer, Ender of the Moon | 4.4 | 7 | \$30.80 |
| 102 | Avenger | 3.44 | 6 | \$20.64 |
| 129 | Fate, Vengeance of Eternal Justice | 1.54 | 6 | \$9.24 |
| 93 | Apocalyptic Battlescythe | 1.97 | 6 | \$11.82 |
| 54 | Eternal Cleaver | 2.5 | 6 | \$15.00 |
| 3 | Phantomlight | 2.49 | 6 | \$14.94 |
| 2 | Verdict | 2.48 | 6 | \$14.88 |
| 40 | Second Chance | 2.52 | 6 | \$15.12 |
| 160 | Azurewrath | 4.4 | 6 | \$26.40 |
| 120 | Agatha | 3.08 | 6 | \$18.48 |
| 179 | Wolf, Promise of the Moonwalker | 4.48 | 6 | \$26.88 |
| 25 | Hero Cane | 4.35 | 6 | \$26.10 |

| Item ID | Item Name | Price | count | Total Purchase Value |
|---------|-----------------------------------|-------|-------|----------------------|
| | | | | |
| 144 | Blood Infused Guardian | 1.94 | 6 | \$11.64 |
| 22 | Amnesia | 2.18 | 6 | \$13.08 |
| 143 | Frenzied Scimitar | 1.56 | 6 | \$9.36 |
| 12 | Dawne | 1.02 | 6 | \$6.12 |
| 96 | Blood-Forged Skeletal Spine | 3.09 | 6 | \$18.54 |
| 136 | Ghastly Adamantite Protector | 3.58 | 6 | \$21.48 |
| 140 | Striker | 2.94 | 5 | \$14.70 |
| 138 | Peacekeeper, Wit of Dark Magic | 4.74 | 5 | \$23.70 |
| 137 | Aetherius, Boon of the Blessed | 3.39 | 5 | \$16.95 |
| 88 | Emberling, Defender of Delusions | 3.75 | 5 | \$18.75 |
| 139 | Mercy, Katana of Dismay | 4.94 | 5 | \$24.70 |
| 133 | Faith's Scimitar | 4.09 | 5 | \$20.45 |
| 131 | Fury | 1.44 | 5 | \$7.20 |
| 65 | Conqueror Adamantite Mace | 4.24 | 5 | \$21.20 |
| 128 | Blazeguard, Reach of Eternity | 4.91 | 5 | \$24.55 |
| 73 | Ritual Mace | 2.05 | 5 | \$10.25 |
| 181 | Reaper's Toll | 1.66 | 5 | \$8.30 |
| 114 | Yearning Mageblade | 3.82 | 5 | \$19.10 |
| 87 | Deluge, Edge of the West | 4.43 | 5 | \$22.15 |
| 149 | Tranquility, Razor of Black Magic | 1.75 | 5 | \$8.75 |
| 98 | Deadline, Voice Of Subtlety | 2.89 | 5 | \$14.45 |
| 156 | Soul-Forged Steel Shortsword | 1.77 | 5 | \$8.85 |
| 15 | Soul Infused Crystal | 2.96 | 5 | \$14.80 |
| 100 | Blindscythe | 3.27 | 5 | \$16.35 |
| 20 | Netherbane | 3.27 | 5 | \$16.35 |
| 21 | Souleater | 1.1 | 5 | \$5.50 |
| 163 | Thunderfury Scimitar | 3.45 | 5 | \$17.25 |
| 24 | Warped Fetish | 3.81 | 5 | \$19.05 |
| 162 | Abyssal Shard | 2.67 | 5 | \$13.35 |
| 161 | Devine | 1.76 | 5 | \$8.80 |
| 29 | Chaos, Ender of the End | 1.98 | 5 | \$9.90 |
| 101 | Final Critic | 4.19 | 5 | \$20.95 |
| 32 | Orenmir | 1.14 | 5 | \$5.70 |
| 11 | Brimstone | 3.65 | 5 | \$18.25 |
| 35 | Heartless Bone Dualblade | 3.45 | 5 | \$17.25 |

| Item ID | Item Name | Price | count | Total Purchase Value |
|---------|----------------------------------------|-------|-------|----------------------|
| | | | | |
| 155 | War-Forged Gold Deflector | 1.01 | 5 | \$5.05 |
| 39 | Betrayal, Whisper of Grieving Widows | 3.94 | 5 | \$19.70 |
| 44 | Bonecarvin Battle Axe | 2.38 | 5 | \$11.90 |
| 150 | Deathraze | 2.85 | 5 | \$14.25 |
| 46 | Hopeless Ebon Dualblade | 1.33 | 5 | \$6.65 |
| 4 | Bloodlord's Fetish | 1.7 | 5 | \$8.50 |
| 146 | Warped Iron Scimitar | 3.1 | 5 | \$15.50 |
| 80 | Dreamsong | 3.39 | 5 | \$16.95 |
| 107 | Splitter, Foe Of Subtlety | 2.18 | 4 | \$8.72 |
| 105 | Hailstorm Shadowsteel Scythe | 3.03 | 4 | \$12.12 |
| 111 | Misery's End | 4.89 | 4 | \$19.56 |
| 170 | Shadowsteel | 3.97 | 4 | \$15.88 |
| 112 | Worldbreaker | 2.6 | 4 | \$10.40 |
| 113 | Solitude's Reaver | 4.07 | 4 | \$16.28 |
| 116 | Renewed Skeletal Katana | 4.18 | 4 | \$16.72 |
| 121 | Massacre | 1.6 | 4 | \$6.40 |
| 123 | Twilight's Carver | 2.28 | 4 | \$9.12 |
| 124 | Venom Claymore | 1.29 | 4 | \$5.16 |
| 174 | Primitive Blade | 3.47 | 4 | \$13.88 |
| 169 | Interrogator, Blood Blade of the Queen | 2.18 | 4 | \$8.72 |
| 152 | Darkheart | 1.74 | 4 | \$6.96 |
| 153 | Mercenary Sabre | 3.74 | 4 | \$14.96 |
| 154 | Feral Katana | 4.4 | 4 | \$17.60 |
| 172 | Blade of the Grave | 3.14 | 4 | \$12.56 |
| 157 | Spada, Etcher of Hatred | 4.8 | 4 | \$19.20 |
| 165 | Bone Crushing Silver Skewer | 4.86 | 4 | \$19.44 |
| 167 | Malice, Legacy of the Queen | 3.61 | 4 | \$14.44 |
| 99 | Expiration, Warscythe Of Lost Worlds | 1.71 | 4 | \$6.84 |
| 0 | Splinter | 1.28 | 4 | \$5.12 |
| 52 | Hatred | 4.84 | 4 | \$19.36 |
| 17 | Lazarus, Terror of the Earth | 1.7 | 4 | \$6.80 |
| 58 | Freak's Bite, Favor of Holy Might | 4.14 | 4 | \$16.56 |
| 57 | Despair, Favor of Due Diligence | 4.6 | 4 | \$18.40 |
| 66 | Victor Iron Spikes | 4.4 | 4 | \$17.60 |
| 50 | Dawn | 4.6 | 4 | \$18.40 |

| | | | count | Total Purchase Value |
|---------|---------------------------------------|-------|-------|----------------------|
| Item ID | Item Name | Price | | |
| 67 | Celeste, Incarnation of the Corrupted | 3.46 | 4 | \$13.84 |
| 68 | Storm-Weaver, Slayer of Inception | 4.32 | 4 | \$17.28 |
| 70 | Hope's End | 1.03 | 4 | \$4.12 |
| 45 | Glinting Glass Edge | 3.85 | 4 | \$15.40 |
| 38 | The Void, Vengeance of Dark Magic | 2.37 | 4 | \$9.48 |
| 77 | Piety, Guardian of Riddles | 4.0 | 4 | \$16.00 |
| 76 | Haunted Bronzed Bludgeon | 3.15 | 4 | \$12.60 |
| 9 | Thorn, Conqueror of the Corrupted | 2.73 | 4 | \$10.92 |
| 16 | Restored Bauble | 3.55 | 4 | \$14.20 |
| 13 | Serenity | 1.41 | 4 | \$5.64 |
| 94 | Mourning Blade | 3.49 | 4 | \$13.96 |
| 10 | Sleepwalker | 1.79 | 4 | \$7.16 |
| 5 | Putrid Fan | 4.08 | 4 | \$16.32 |
| 83 | Lifebender | 3.33 | 4 | \$13.32 |
| 49 | The Oculus, Token of Lost Worlds | 2.96 | 3 | \$8.88 |
| 182 | Toothpick | 4.03 | 3 | \$12.09 |
| 55 | Vindictive Glass Edge | 2.27 | 3 | \$6.81 |
| 95 | Singed Onyx Warscythe | 4.74 | 3 | \$14.22 |
| 142 | Righteous Might | 2.62 | 3 | \$7.86 |
| 8 | Purgatory, Gem of Regret | 3.93 | 3 | \$11.79 |
| 166 | Thirsty Iron Reaver | 3.07 | 3 | \$9.21 |
| 175 | Woeful Adamantite Claymore | 4.48 | 3 | \$13.44 |
| 147 | Hellreaver, Heirloom of Inception | 4.93 | 3 | \$14.79 |
| 148 | Warmonger, Gift of Suffering's End | 4.03 | 3 | \$12.09 |
| 171 | Scalpel | 1.79 | 3 | \$5.37 |
| 151 | Severance | 3.4 | 3 | \$10.20 |
| 41 | Orbit | 4.75 | 3 | \$14.25 |
| 135 | Warped Diamond Crusader | 1.4 | 3 | \$4.20 |
| 61 | Ragnarok | 3.87 | 3 | \$11.61 |
| 97 | Swan Song, Gouger Of Terror | 2.5 | 3 | \$7.50 |
| 183 | Dragon's Greatsword | 1.09 | 3 | \$3.27 |
| 89 | Blazefury, Protector of Delusions | 4.64 | 3 | \$13.92 |
| 79 | Alpha, Oath of Zeal | 4.05 | 3 | \$12.15 |
| 74 | Yearning Crusher | 4.18 | 3 | \$12.54 |
| 84 | Arcane Gem | 3.79 | 3 | \$11.37 |

| | | | count | Total Purchase Value |
|---------|-------------------------------------------|-------|-------|----------------------|
| Item ID | Item Name | Price | | |
| 119 | Stormbringer, Dark Blade of Ending Misery | 4.32 | 3 | \$12.96 |
| 109 | Downfall, Scalpel Of The Emperor | 4.76 | 3 | \$14.28 |
| 62 | Piece Maker | 1.87 | 3 | \$5.61 |
| 86 | Stormfury Lantern | 2.27 | 3 | \$6.81 |
| 122 | Unending Tyranny | 2.85 | 3 | \$8.55 |
| 106 | Crying Steel Sickle | 3.41 | 3 | \$10.23 |
| 64 | Fusion Pummel | 4.82 | 3 | \$14.46 |
| 130 | Alpha | 2.07 | 3 | \$6.21 |
| 1 | Crucifer | 3.26 | 3 | \$9.78 |
| 173 | Stormfury Longsword | 4.93 | 2 | \$9.86 |
| 176 | Relentless Iron Skewer | 2.84 | 2 | \$5.68 |
| 14 | Possessed Core | 2.61 | 2 | \$5.22 |
| 168 | Sun Strike, Jaws of Twisted Visions | 1.48 | 2 | \$2.96 |
| 177 | Winterthorn, Defender of Shifting Worlds | 2.08 | 2 | \$4.16 |
| 81 | Dreamkiss | 3.61 | 2 | \$7.22 |
| 6 | Rusty Skull | 3.7 | 2 | \$7.40 |
| 18 | Torchlight, Bond of Storms | 4.65 | 2 | \$9.30 |
| 26 | Unholy Wand | 1.12 | 2 | \$2.24 |
| 28 | Flux, Destroyer of Due Diligence | 1.06 | 2 | \$2.12 |
| 30 | Stormcaller | 2.21 | 2 | \$4.42 |
| 158 | Darkheart, Butcher of the Champion | 2.45 | 2 | \$4.90 |
| 69 | Frenzy, Defender of the Harvest | 1.98 | 2 | \$3.96 |
| 132 | Persuasion | 3.33 | 2 | \$6.66 |
| 63 | Stormfury Mace | 4.99 | 2 | \$9.98 |
| 56 | Foul Titanium Battle Axe | 2.92 | 2 | \$5.84 |
| 127 | Heartseeker, Reaver of Souls | 3.92 | 2 | \$7.84 |
| 48 | Rage, Legacy of the Lone Victor | 2.48 | 2 | \$4.96 |
| 125 | Whistling Mithril Warblade | 1.0 | 2 | \$2.00 |
| 43 | Foul Edge | 3.54 | 2 | \$7.08 |
| 115 | Spectral Diamond Doomblade | 2.04 | 2 | \$4.08 |
| 33 | Curved Axe | 1.16 | 2 | \$2.32 |
| 31 | Trickster | 1.55 | 2 | \$3.10 |
| 118 | Ghost Reaver, Longsword of Magic | 2.17 | 1 | \$2.17 |
| 47 | Alpha, Reach of Ending Hope | 3.58 | 1 | \$3.58 |
| 42 | The Decapitator | 1.75 | 1 | \$1.75 |

| Item ID | Item Name | Price | count | Total Purchase Value |
|---------|---------------------------------|-------|-------|----------------------|
| | | | | |
| 27 | Riddle, Tribute of Ended Dreams | 3.3 | 1 | \$3.30 |
| 126 | Exiled Mithril Longsword | 2.0 | 1 | \$2.00 |
| 51 | Endbringer | 4.66 | 1 | \$4.66 |
| 90 | Betrayer | 2.94 | 1 | \$2.94 |
| 104 | Gladiator's Glaive | 1.93 | 1 | \$1.93 |
| 23 | Crucifer | 1.99 | 1 | \$1.99 |
| 180 | Stormcaller | 3.36 | 1 | \$3.36 |
| 91 | Celeste | 4.17 | 1 | \$4.17 |
| 134 | Undead Crusader | 4.5 | 1 | \$4.50 |

Most Profitable Items

- Sort the above table by total purchase value in descending order
- Optional: give the displayed data cleaner formatting
- Display a preview of the data frame

```
In [ ]: #Sort the above items in descending order to show the most profitable items

popular_sorted =popular_items.sort_values("Total Purchase Value", ascending=False)
popular_sorted.style.format({'Price': "${0:,.2f}", 'Total Purchase Value': "${0:,.2f}"})
```

Trends

1. 20 -24 year olds are spending the most on purchasing products. Although the avg purchase price per person is not very different from other the age brackets, the volume of purchase makes them the group spending the most money on products. Out spending the nearest group (15-19 yr olds) by 3:1.
2. The players in this data set are predominantly male over 83%. Again not a huge difference in average per person spending but very high volume of transactions make male players bigger spending group.
3. Most popular items are also the most profitable ones