In [1]:

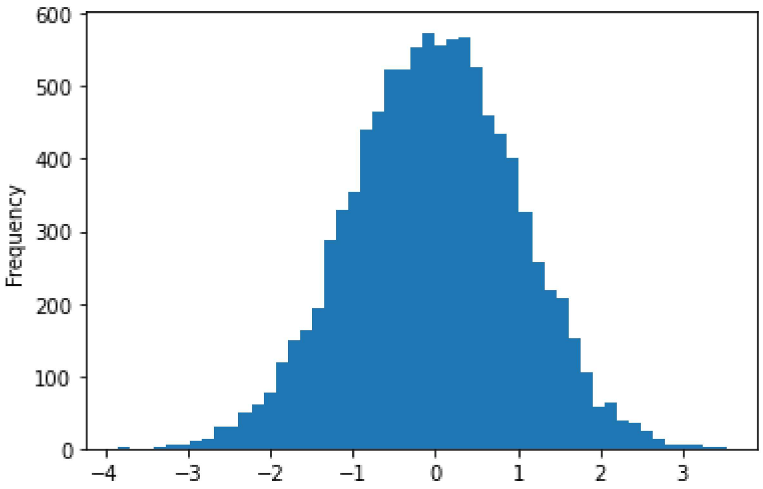
```
#import libraries
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
from numpy.random import randn, randint, uniform, sample
```

In [2]:

```
#Generate random data and plot histogram
x = randn(10000)
x = pd.Series(randn(10000))
x.plot(kind='hist', bins=50)
```

Out[2]:

```
<AxesSubplot:ylabel='Frequency'>
```



In [3]:

```
#Create DataFrame with revenues by month
df = pd.DataFrame({'revenues':[75305,46191,55980,37892,89376]})
df = df.set_index([pd.Index(['January', 'February', 'March', 'April', 'May'])])
df
```

Out[3]:

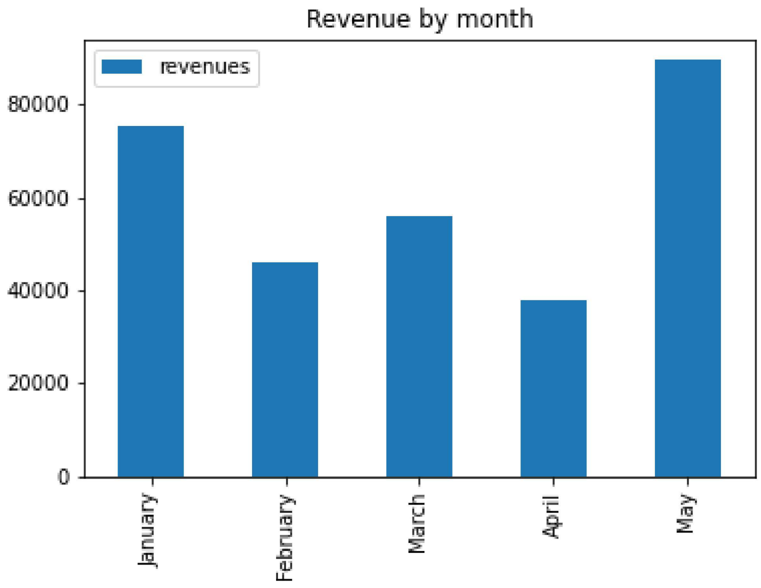
	revenues
January	75305
February	46191
March	55980
April	37892
May	89376

In [4]:

```
#Plot bar chart of revenues by month
df.plot(kind="bar")
plt.title('Revenue by month')
```

Out[4]:

```
Text(0.5, 1.0, 'Revenue by month')
```

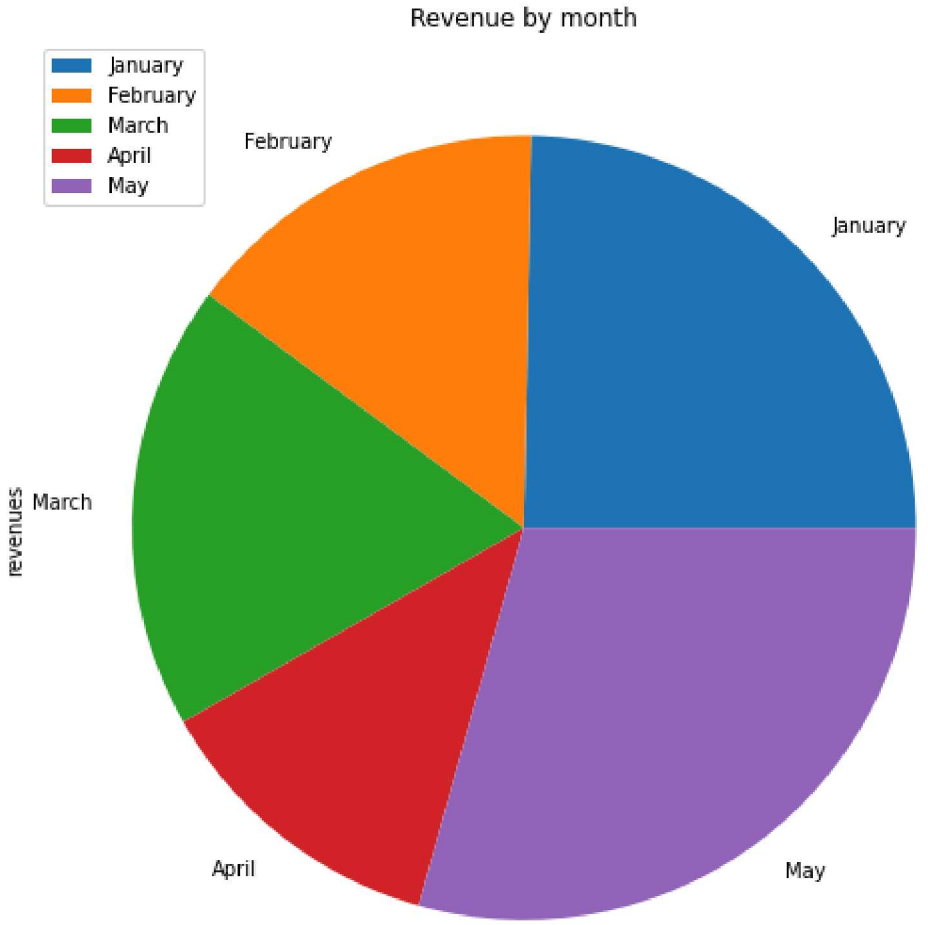


In [5]:

```
#Plot pie chart of revenues by month
df.plot.pie(y='revenues', figsize=(9, 9))
plt.title('Revenue by month')
```

Out[5]:

```
Text(0.5, 1.0, 'Revenue by month')
```



In [6]:

In [7]:

```
#Create revenue data across multiple product categories
data = {'January': [33000, 22000, 11000],
        'February': [15000, 15000, 7000],
        'March':[12000,19000,12000],
        'April':[16000,30000,17000],
        'May':[19000,35000,19000]}
df = pd.DataFrame(data, index=['Electronics',
                               'Produce',
                               'Garment'])
df
```

Out[7]:

	January	February	March	April	May
Electronics	33000	15000	12000	16000	19000
Produce	22000	15000	19000	30000	35000
Garment	11000	7000	12000	17000	19000

In [8]:

```
data={}
```

In [9]:

```
#Calculate mean revenue for each month
revmeans = df[['January','February', 'March', 'April','May']].mean()
revmeans
```

Out[9]:

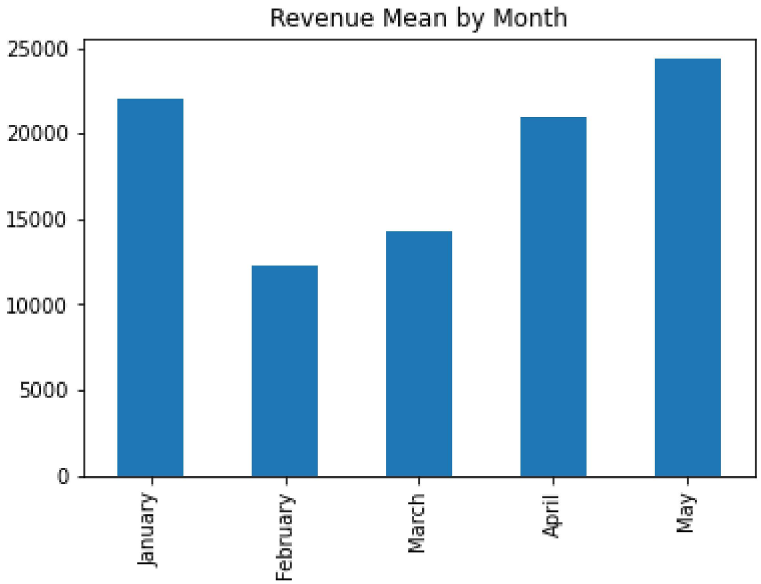
```
January     22000.000000
February    12333.333333
March       14333.333333
April       21000.000000
May         24333.333333
dtype: float64
```

In [10]:

```
#Plot bar chart for mean revenue by month
revmeans.plot(kind="bar")
plt.title('Revenue Mean by Month')
```

Out[10]:

```
Text(0.5, 1.0, 'Revenue Mean by Month')
```

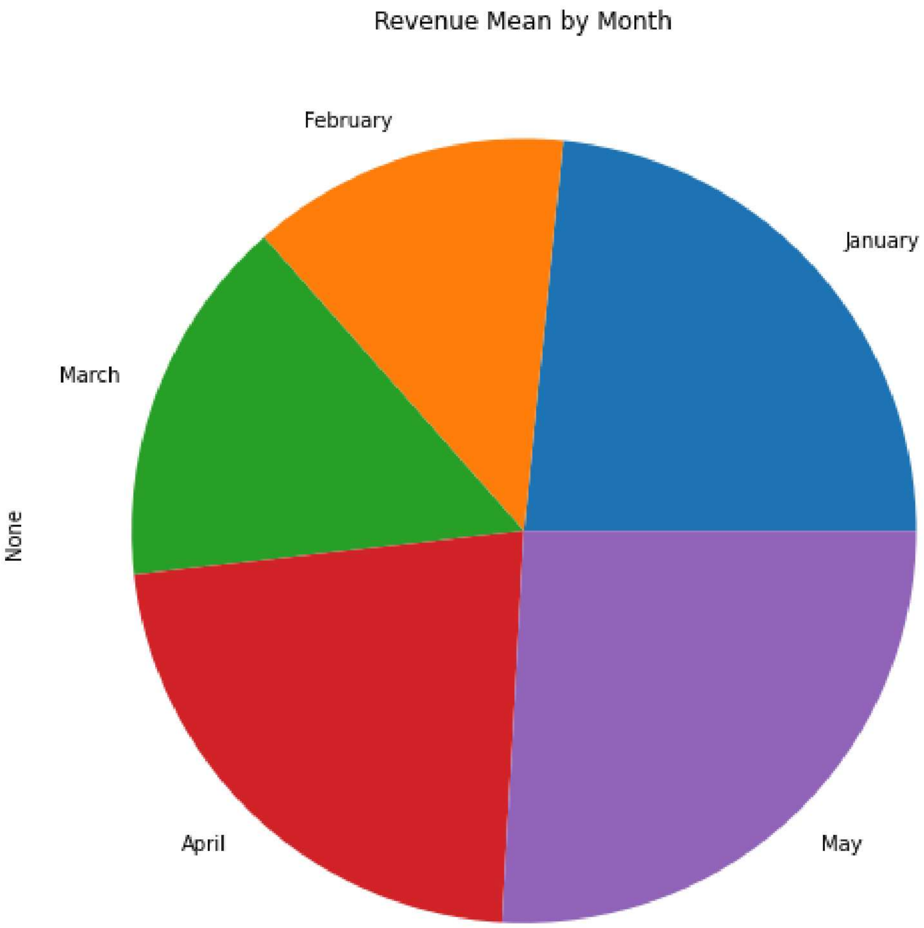


In [11]:

```
#Plot pie chart of mean revenue by month
revmeans.plot.pie(figsize=(9, 9))
plt.title('Revenue Mean by Month')
```

Out[11]:

```
Text(0.5, 1.0, 'Revenue Mean by Month')
```



In [12]:

```
#Add mean column to DataFrame and display updated DataFrame
df['mean'] = df.mean(axis=1)
df
```

Out[12]:

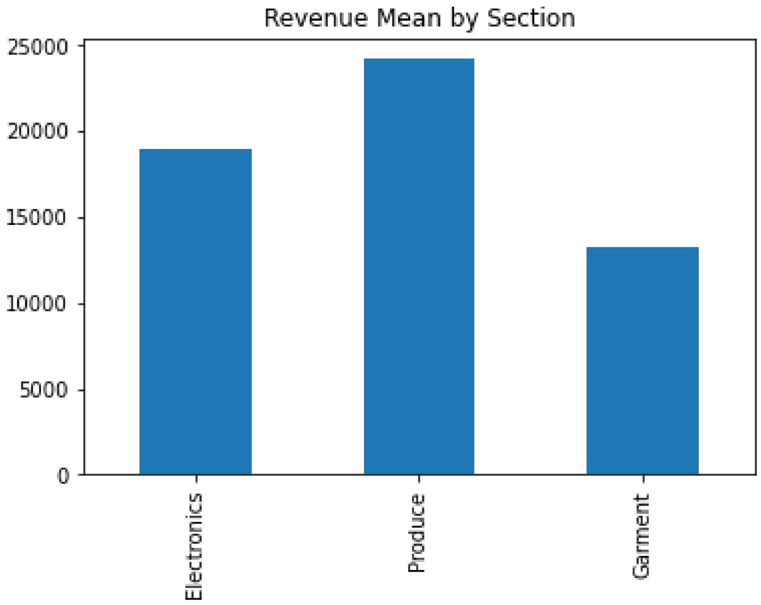
	January	February	March	April	May	mean
Electronics	33000	15000	12000	16000	19000	19000.0
Produce	22000	15000	19000	30000	35000	24200.0
Garment	11000	7000	12000	17000	19000	13200.0

In [13]:

```
#Plot bar chart of revenue means by section
df['mean'].plot(kind="bar")
plt.title('Revenue Mean by Section')
```

Out[13]:

```
Text(0.5, 1.0, 'Revenue Mean by Section')
```

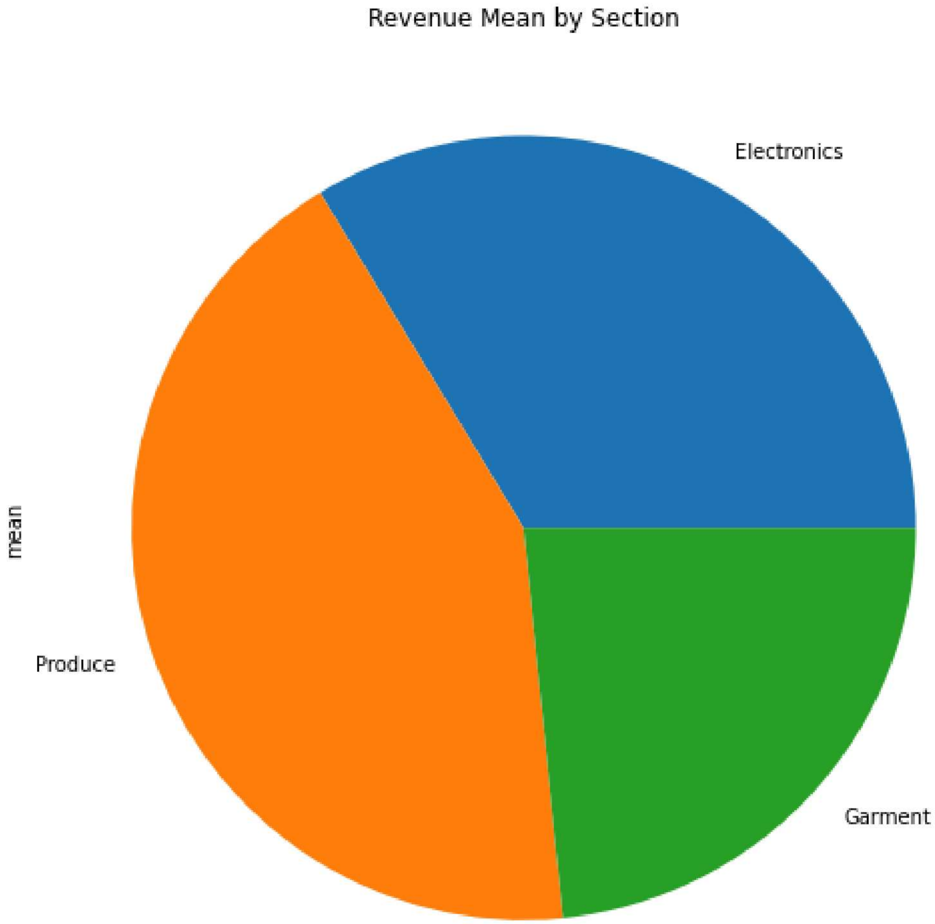


In [14]:

```
#Plot pie chart for revenue mean by section
df['mean'].plot.pie(figsize=(9, 9))
plt.title('Revenue Mean by Section')
```

Out[14]:

```
Text(0.5, 1.0, 'Revenue Mean by Section')
```

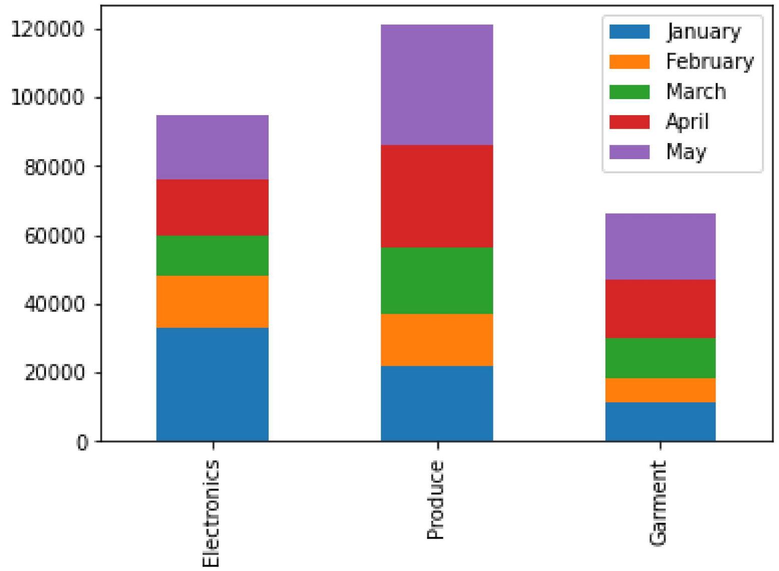


In [15]:

```
#Plot pie chart for revenue mean by section
df=df.drop(['mean'], axis=1)
df.plot.bar(stacked=True)
```

Out[15]:

```
<AxesSubplot:>
```

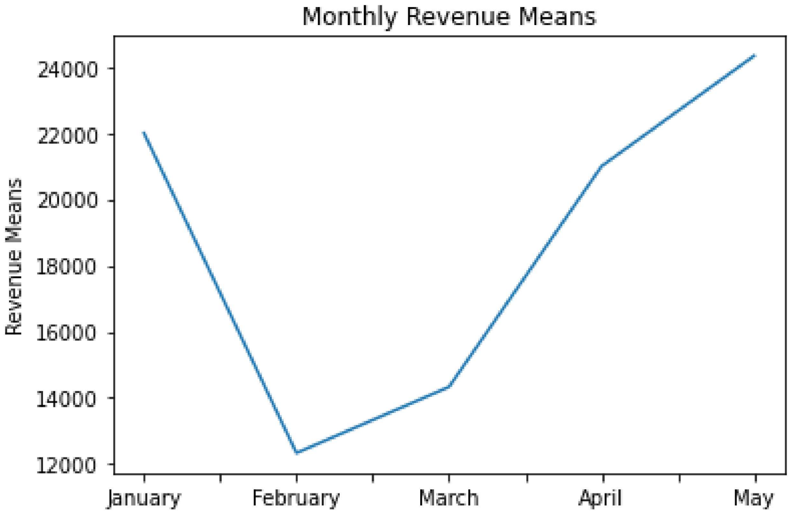


In [16]:

```
#Plot line chart of monthly revenue means
revmeans.plot.line()
plt.ylabel('Revenue Means')
plt.title('Monthly Revenue Means')
```

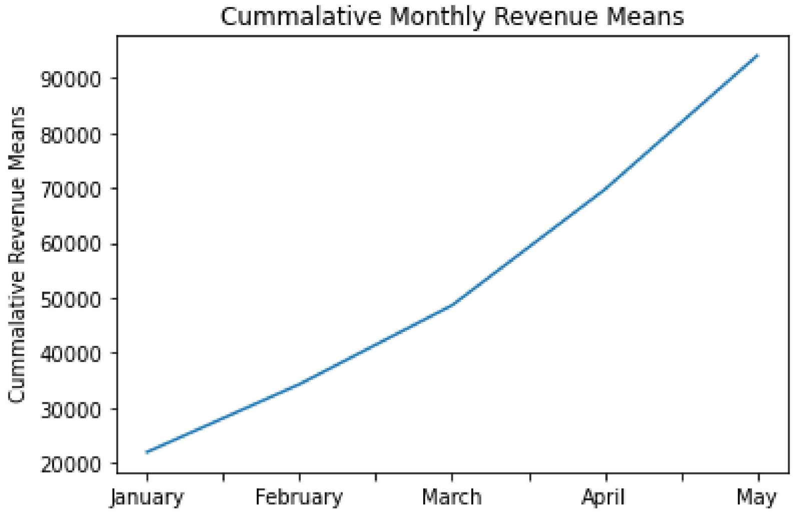
Out[16]:

```
Text(0.5, 1.0, 'Monthly Revenue Means')
```



```
In [17]:  #Plot cumulative monthly revenue means
           crm = revmeans.cumsum()
           crm.plot.line()
           plt.ylabel(' Cummalative Revenue Means')
           plt.title('Cummalative Monthly Revenue Means')
```

```
Out[17]: Text(0.5, 1.0, 'Cummalative Monthly Revenue Means')
```



```
In [18]:  #Transpose DataFrame and display
           df.T
```

Out[18]:

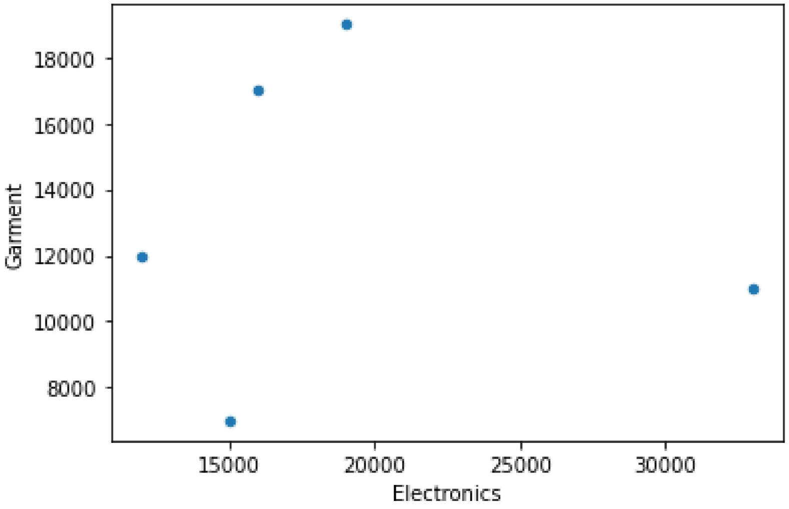
	Electronics	Produce	Garment
January	33000	22000	11000
February	15000	15000	7000
March	12000	19000	12000
April	16000	30000	17000
May	19000	35000	19000

In [19]:

```
#Scatter plot for electronics vs garment revenue
import matplotlib.pyplot as plt
df.T.plot.scatter(x='Electronics', y='Garment')
```

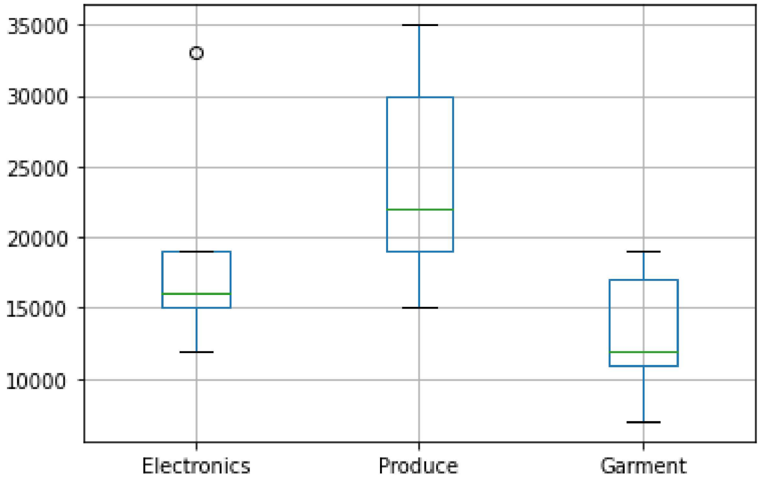
Out[19]:

```
<AxesSubplot:xlabel='Electronics', ylabel='Garment'>
```



In [20]:

```
#Plot boxplot for revenue by product category
boxplot = df.T.boxplot(column=['Electronics', 'Produce', 'Garment'])
```



In [ ]: