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SE-4-D

EXPERIMENT N0-12

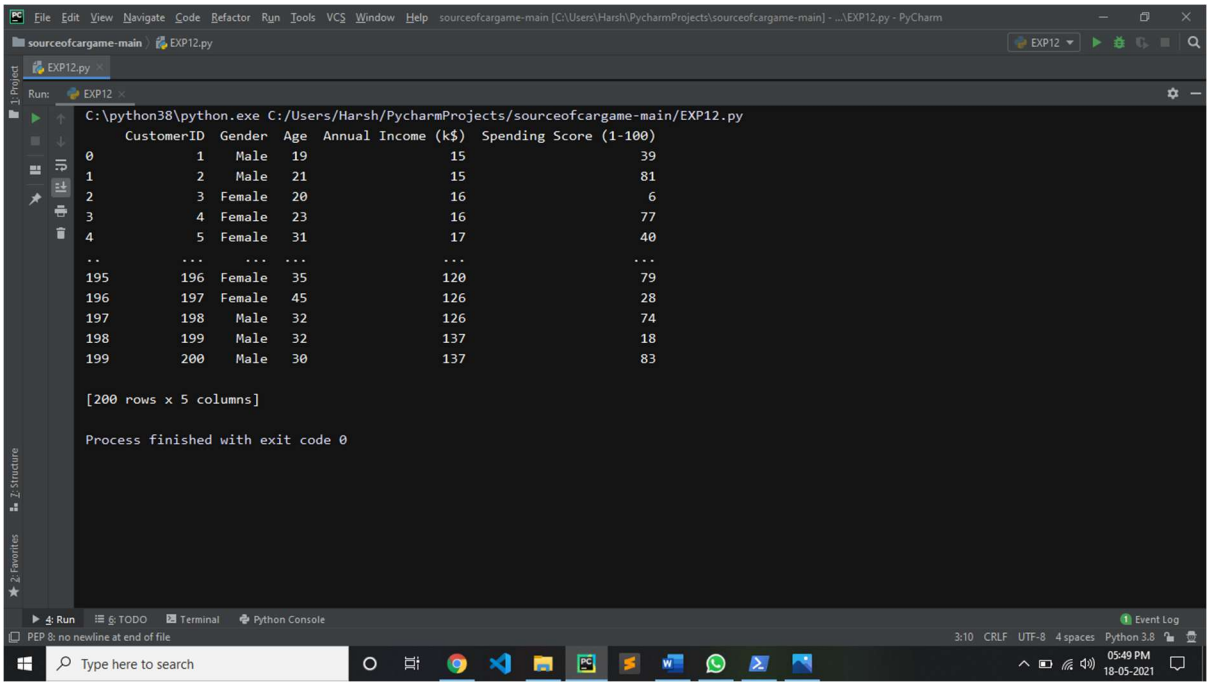
WRITE PYTHON PROGRAM TO READ CSV FILE AND PERFORM FOLLOWING OPERATION

1:READ CSV FILE:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print(df)
```

OUTPUT:

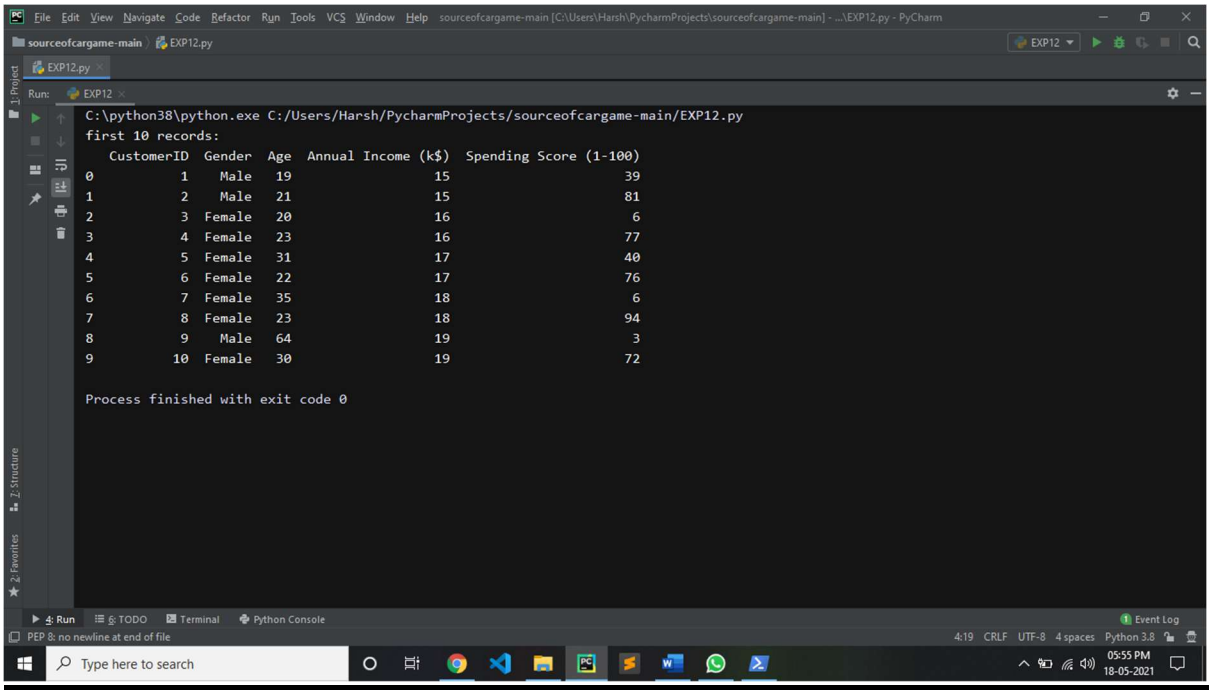


2:READ FIRST 10,20,50 RECORDS:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print("first 10 records:")
print(df.head(10))
```

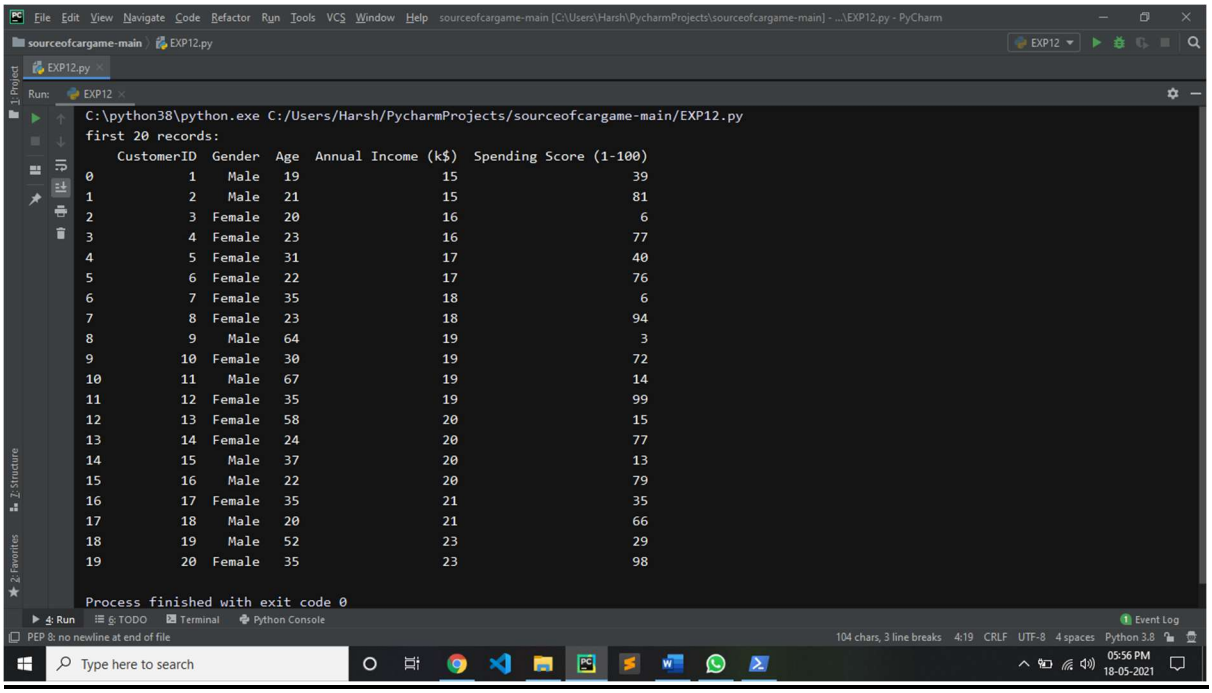
OUTPUT:



CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print("first 20 records:")
print(df.head(20))
```

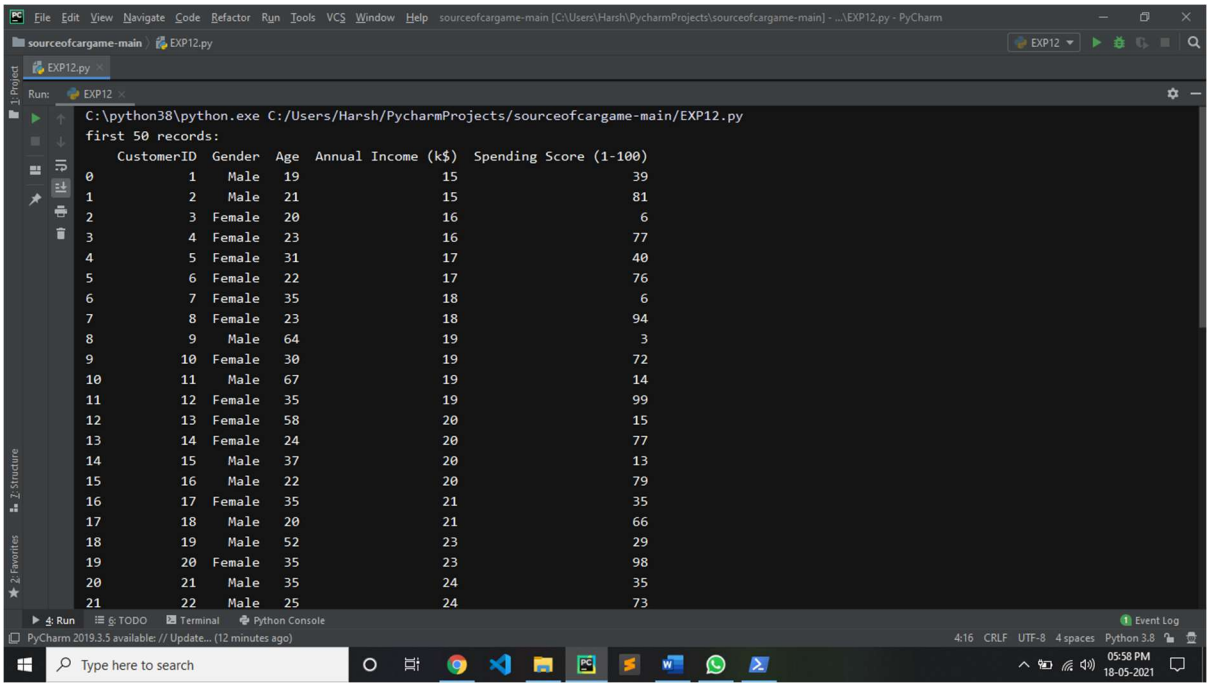
OUTPUT:

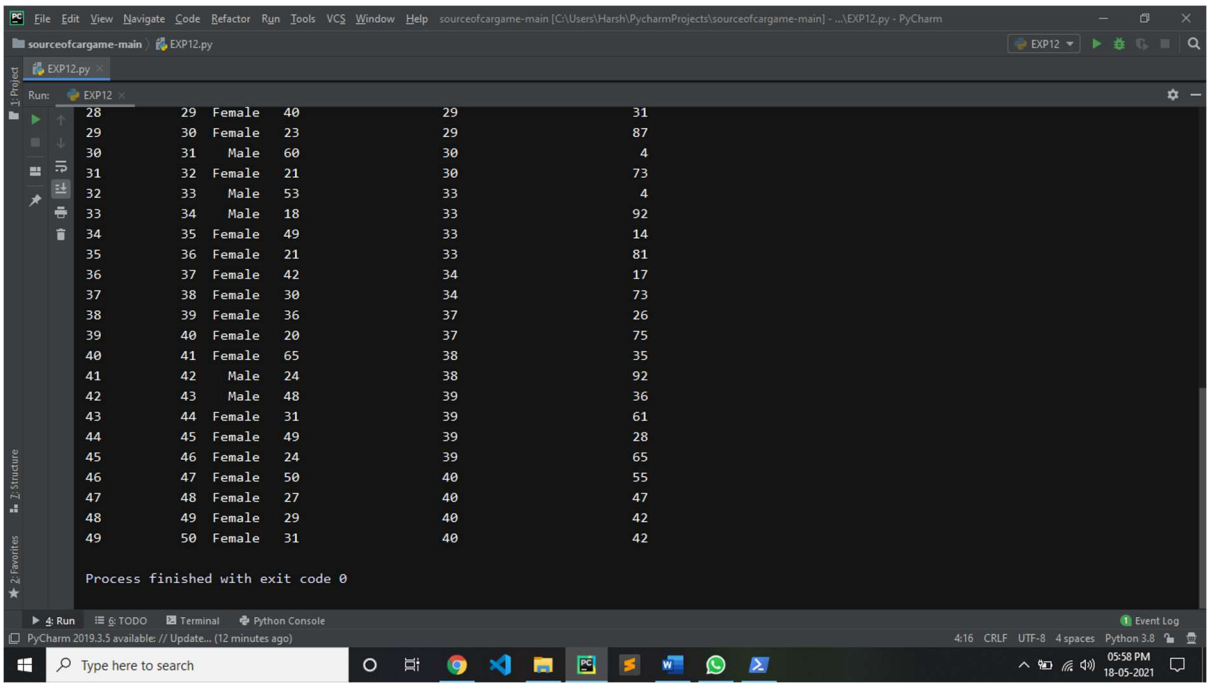


CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print("first 50 records:")
print(df.head(50))
```

OUTPUT:



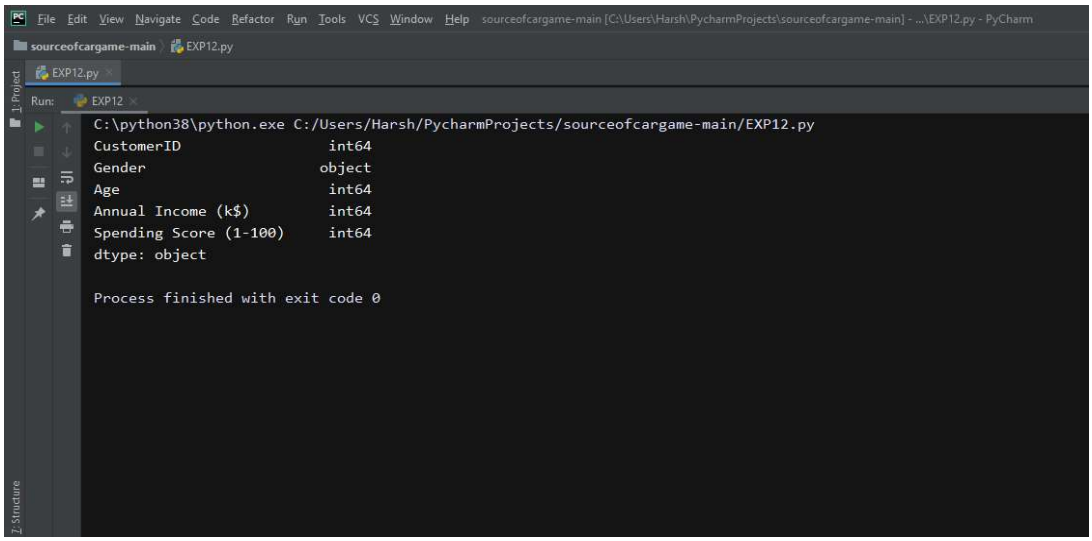


3: CHECK DATATYPE OF ALL THE COLUMNS:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
res = df.dtypes
print(res)
```

OUTPUT:



4:

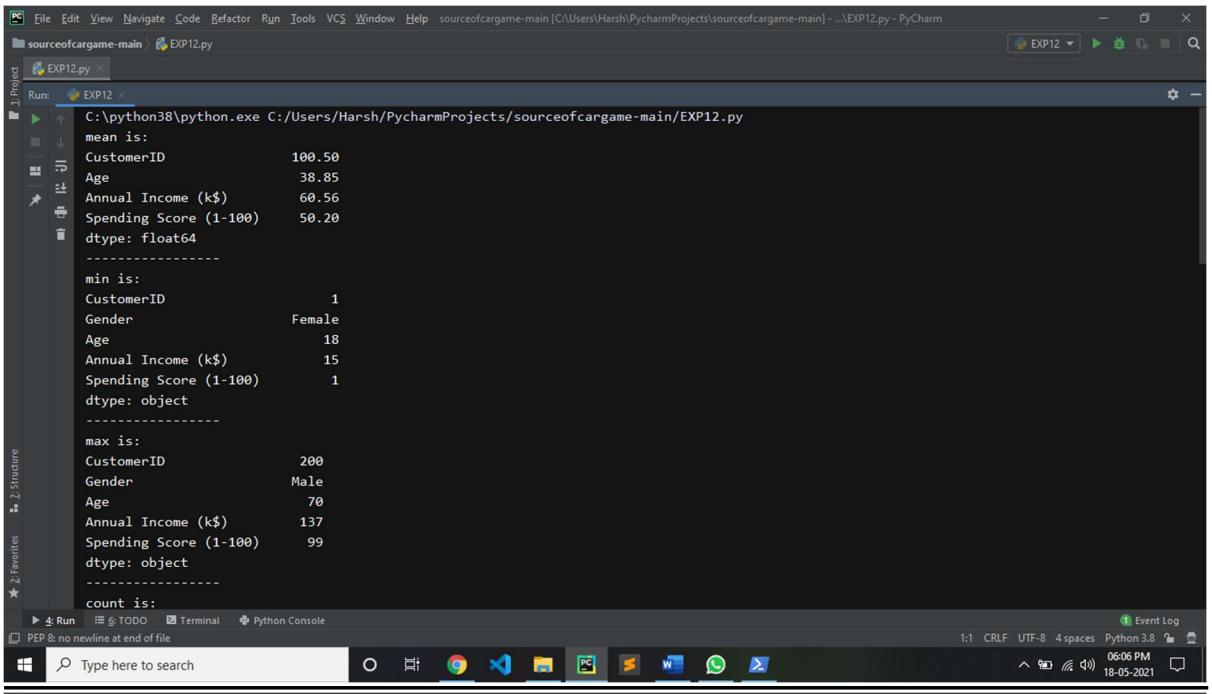
DISPLAY MIN,MAX,SUM,COUNT,PROD,MEAN,MEDIAN,MODE,STD OF GIVEN DATASET:

CODE:

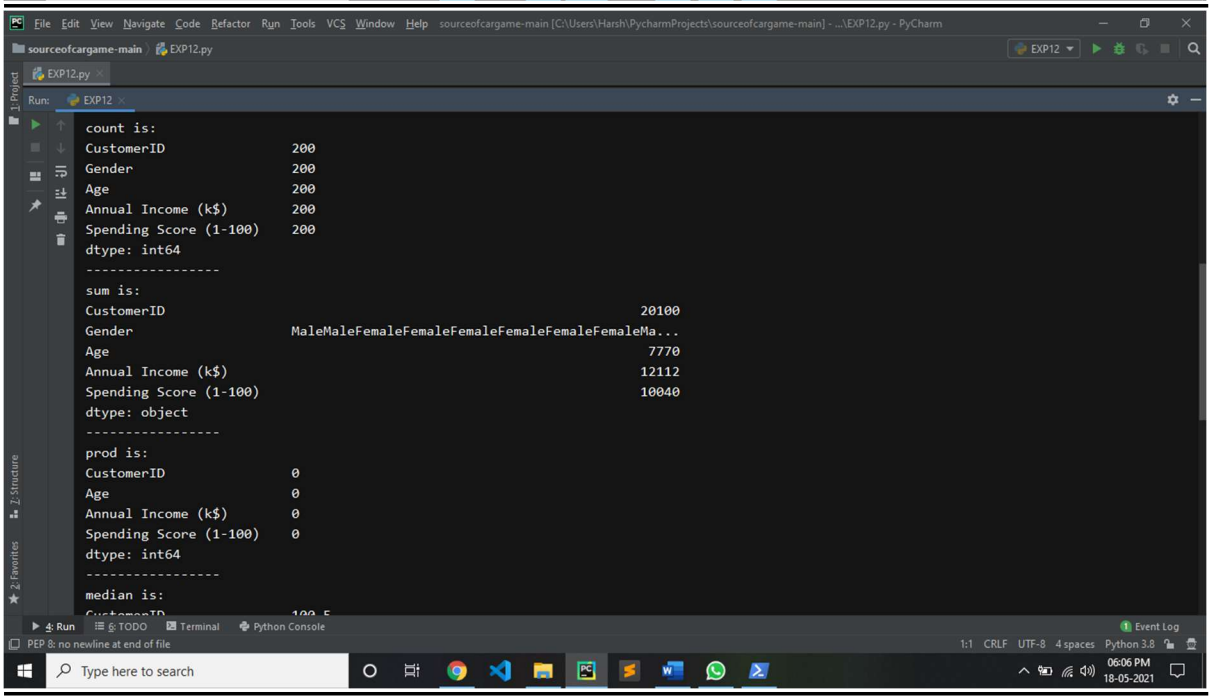
```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print("mean is:")
print(df.mean())
print("-----------------")
print("min is:")
print(df.min())
print("-----------------")
print("max is:")
print(df.max())
print("-----------------")
print("count is:")
print(df.count())
print("-----------------")
print("sum is:")
print(df.sum())
print("-----------------")
print("prod is:")
print(df.prod())
print("-----------------")
print("median is:")
print(df.median())
print("-----------------")
print("mode is:")
```

```
print(df.mode())
print("-----------------")
print("standard deviation is:")
print(df.std())
```

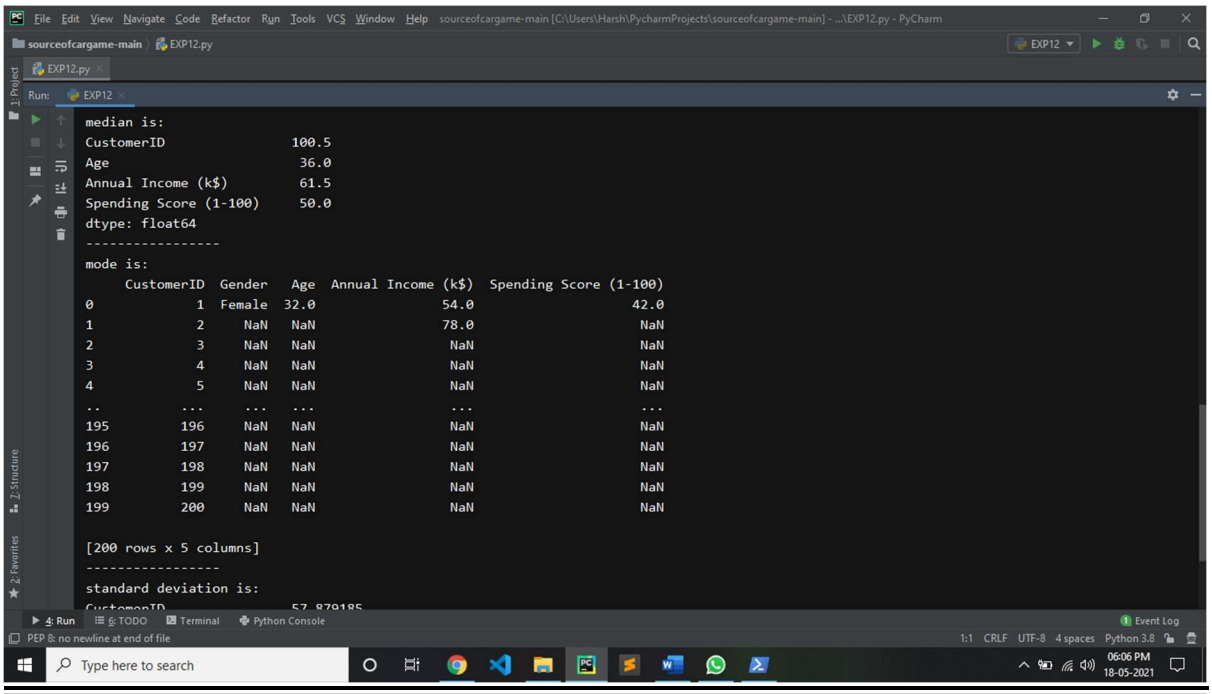
OUTPUT:

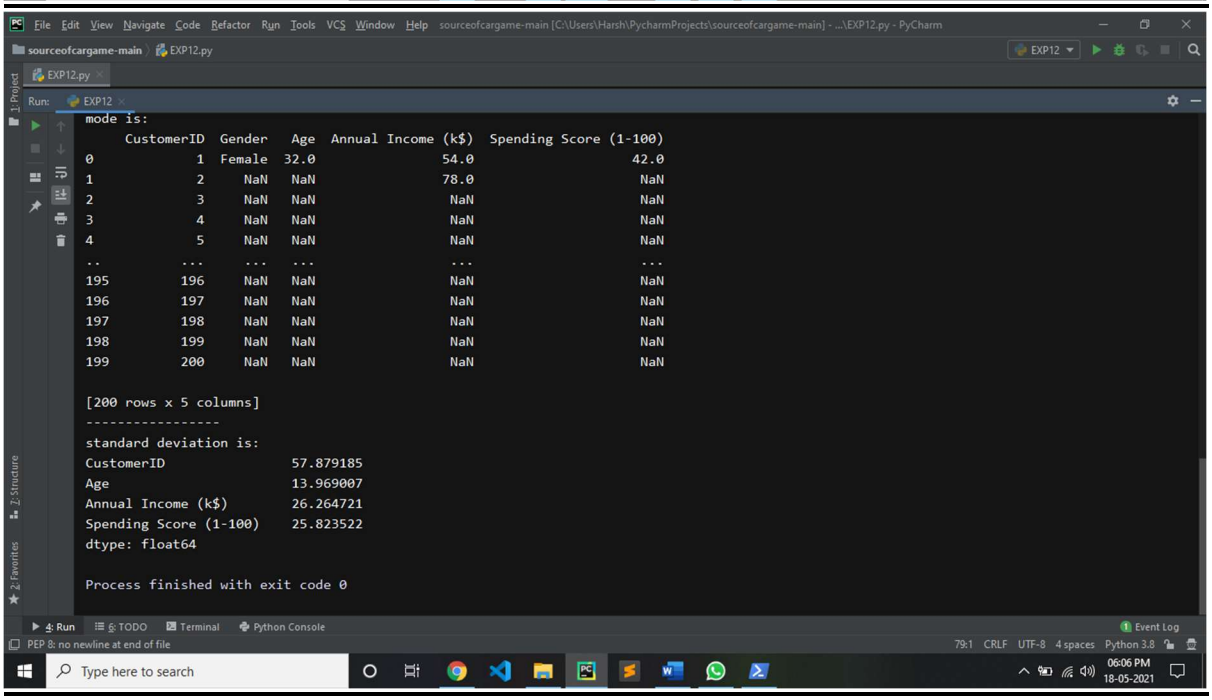


```
C:\python38\python.exe C:/Users/Harsh/PycharmProjects/sourceofcargame-main/EXP12.py
mean is:
CustomerID              100.50
Age                      38.85
Annual Income (k$)       60.56
Spending Score (1-100)   50.20
dtype: float64
-----------------
min is:
CustomerID                 1
Gender                Female
Age                       18
Annual Income (k$)        15
Spending Score (1-100)     1
dtype: object
-----------------
max is:
CustomerID              200
Gender                 Male
Age                      70
Annual Income (k$)      137
Spending Score (1-100)   99
dtype: object
-----------------
count is:
```



```
count is:
CustomerID              200
Gender                  200
Age                     200
Annual Income (k$)      200
Spending Score (1-100)  200
dtype: int64
-----------------
sum is:
CustomerID                                                20100
Gender                MaleMaleFemaleFemaleFemaleFemaleFemaleMa...
Age                                                        7770
Annual Income (k$)                                        12112
Spending Score (1-100)                                    10040
dtype: object
-----------------
prod is:
CustomerID              0
Age                     0
Annual Income (k$)      0
Spending Score (1-100)  0
dtype: int64
-----------------
median is:
```



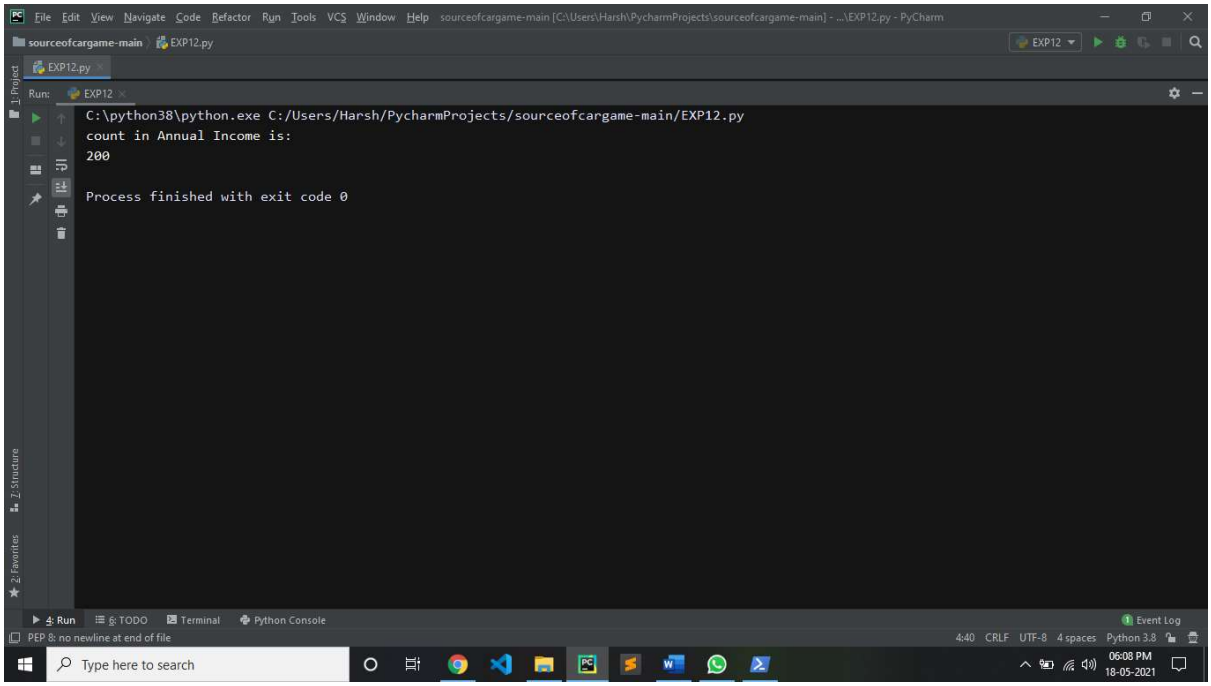


5: FIND HOW MANY VALUES IN ANNUAL INCOME COLUMN:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print("count in Annual Income is:")
print(df['Annual Income (k$)'].count())
```

OUTPUT:



6: CALCULATE AVRAGE ANNUAL INCOME:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
print("avrage Annual Income is:")
print(df['Annual Income (k$)'].mean())
```

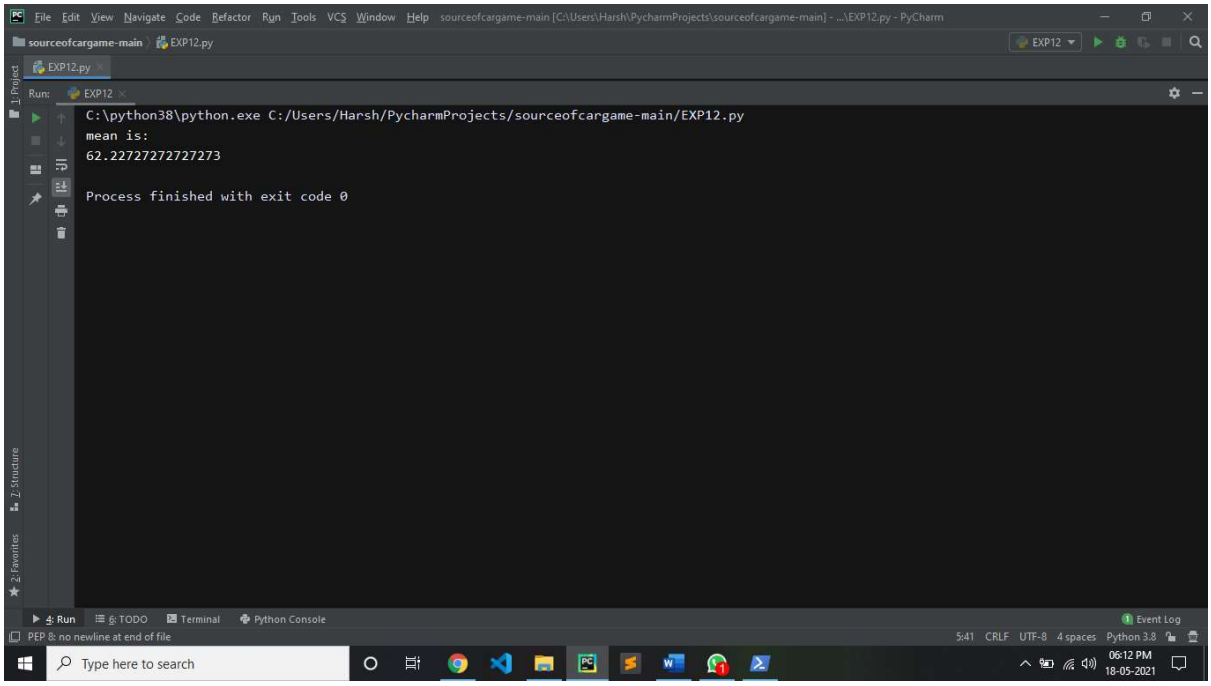
OUTPUT:

7: CALCULATE MEAN ANNUAL INCOME OF EACH MALE CUSTOMER:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
male=df[df['Gender'] == 'Male']
print('mean is:')
print(male['Annual Income (k$)'].mean())
```

OUTPUT:

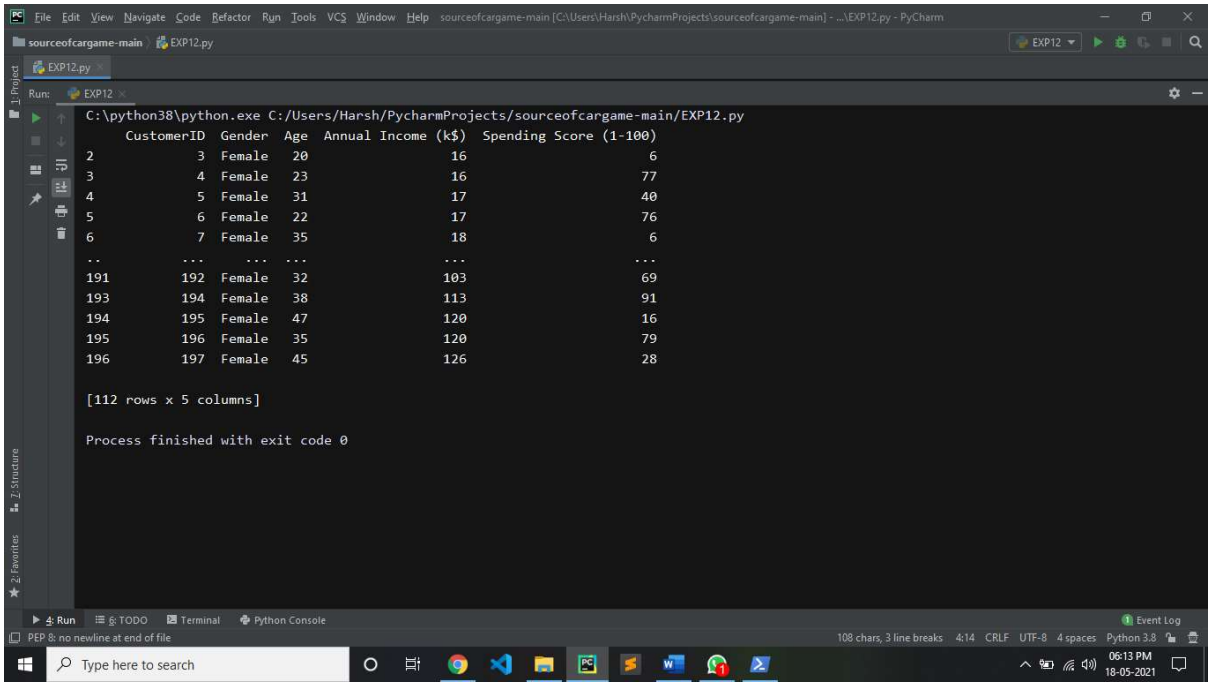


8: SELECT ONLY THOSE ROW WHICH CONTTAIN FEAMLE :

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
female=df[df['Gender'] == 'Female']
print(female)
```

OUTPUT:

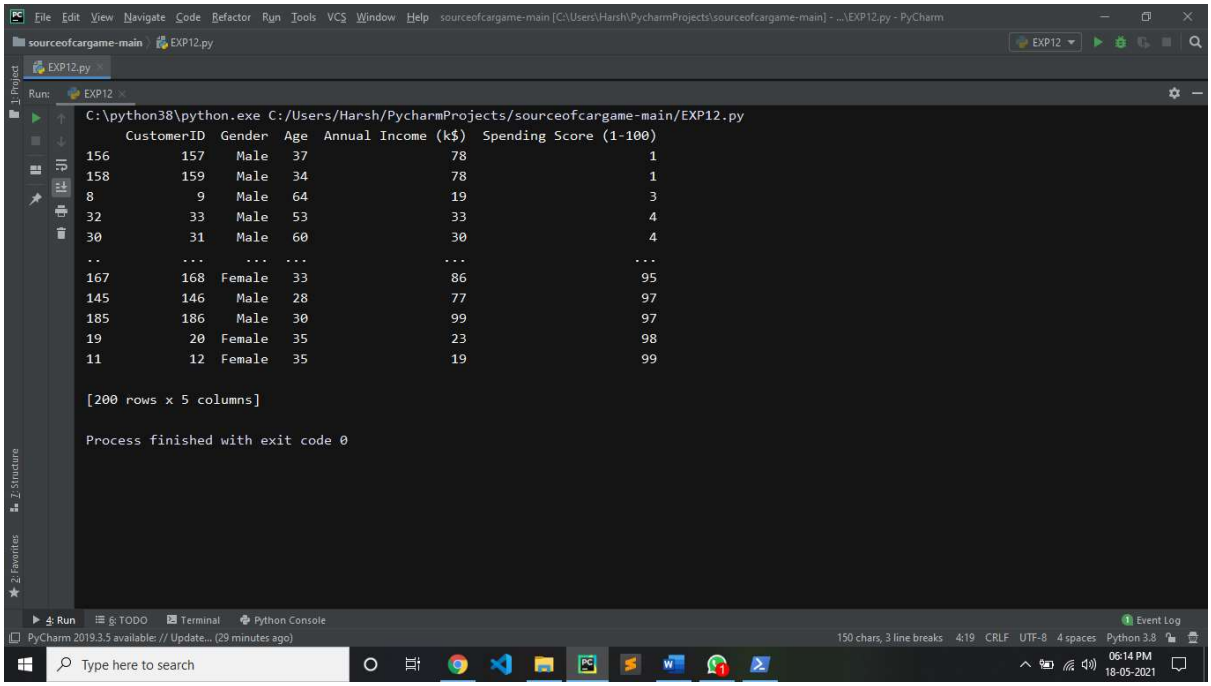


9: CREATE NEW DATAFRAME FROM ORIGINAL SORTED BY SPENDING SCORE:

CODE:

```
import pandas as pd
df = pd.read_csv('Mall_Customers.csv')
sorted_data = df.sort_values("Spending Score (1-100)", ascending = True)
print(sorted_data)
```

OUTPUT:


File Edit View Navigate Code Refactor Run Tools VCS Window Help sourceofcargame-main [C:\Users\Harsh\PycharmProjects\sourceofcargame-main] - ...\EXP12.py - PyCharm
sourceofcargame-main EXP12.py
EXP12.py
Run: EXP12
C:\python38\python.exe C:/Users/Harsh/PycharmProjects/sourceofcargame-main/EXP12.py
CustomerID Gender Age Annual Income (k$) Spending Score (1-100)
156 157 Male 37 78 1
158 159 Male 34 78 1
8 9 Male 64 19 3
32 33 Male 53 33 4
30 31 Male 60 30 4
.. ..
167 168 Female 33 86 95
145 146 Male 28 77 97
185 186 Male 30 99 97
19 20 Female 35 23 98
11 12 Female 35 19 99
[200 rows x 5 columns]
Process finished with exit code 0
1: Project
Z: Structure
2: Favorites
4: Run
6: TODO
Terminal
Python Console
Event Log
PyCharm 2019.3.5 available: // Update... (29 minutes ago)
150 chars, 3 line breaks 4:19 CRLF UTF-8 4 spaces Python 3.8
Type here to search
06:14 PM
18-05-2021