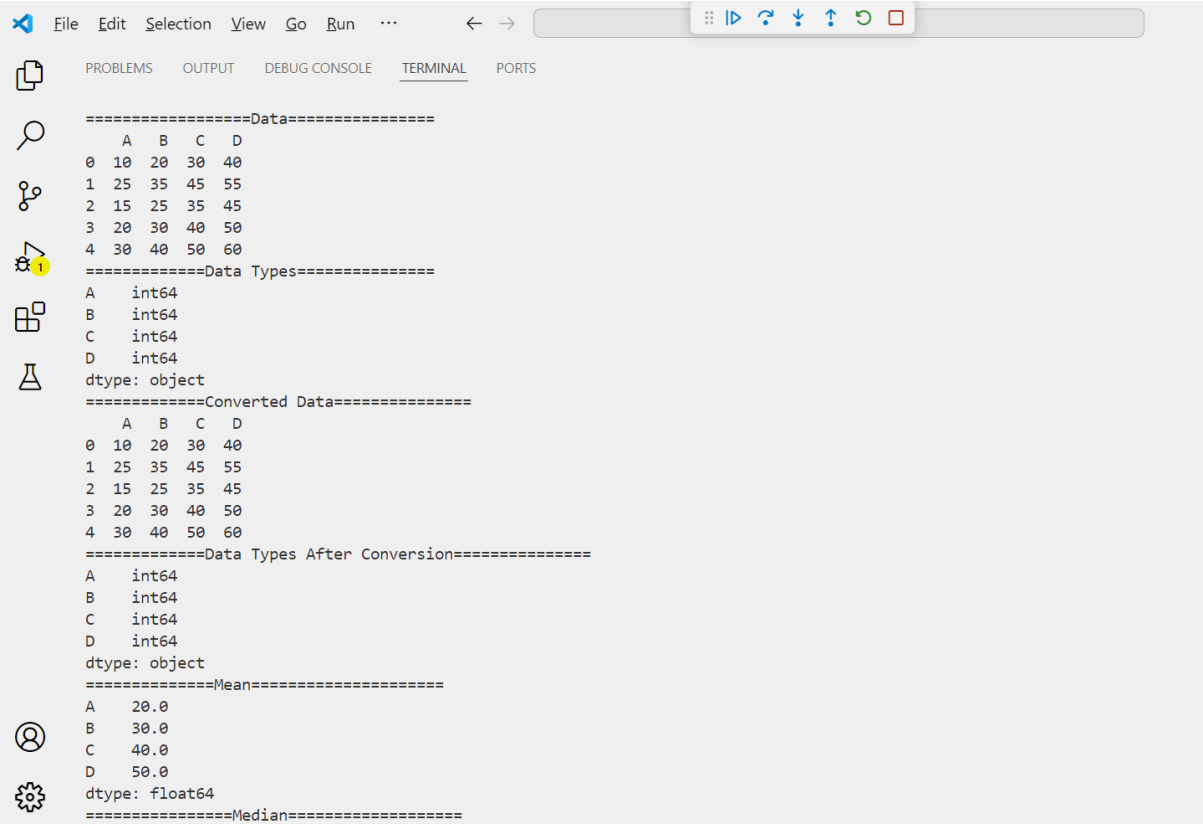
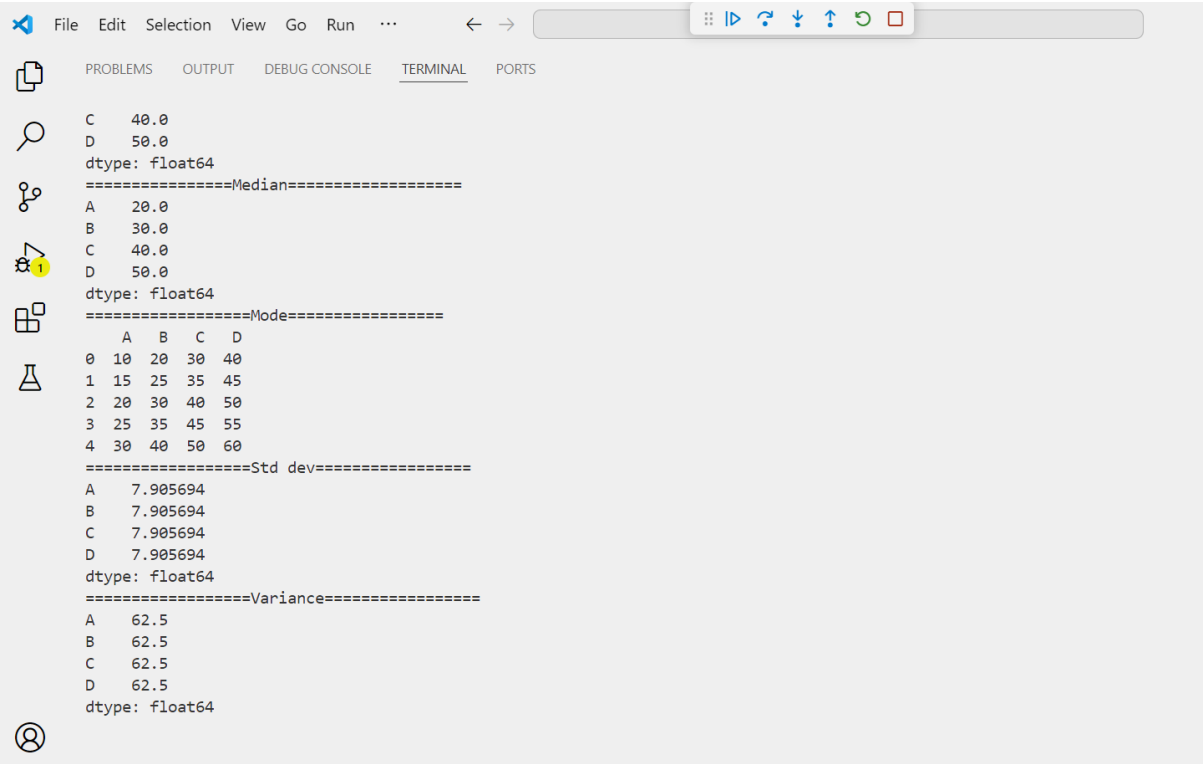
```
import pandas as pd
import numpy as np
df = pd.read_csv(r'ass3.csv')
print("***************Dataset created**************")
print("==================Data================")
print(df)
print("=============Data Types===============")
print(df.dtypes)
numeric_columns = df.select_dtypes(include=[np.number]).columns
df[numeric_columns] = df[numeric_columns].apply(pd.to_numeric, errors='coerce')
print("=============Converted Data===============")
print(df)
print("=============Data Types After Conversion===============")
print(df.dtypes)
try:
    print("==============Mean====================")
    print(df.mean())
    print("================Median==================")
    print(df.median())
    print("==================Mode================")
    print(df.mode())
    print("==================Std dev================")
    print(df.std())
    print("==================Variance================")
    print(df.var())
except Exception as e:
    print("Error occurred during descriptive statistics computation:")
    print(e)
df = pd.read_csv(r'ass3IRIS.csv')
print("**************Iris dataset***************")
print("===========Head=========")
print(df.head())
print("===========Shape=========")
```

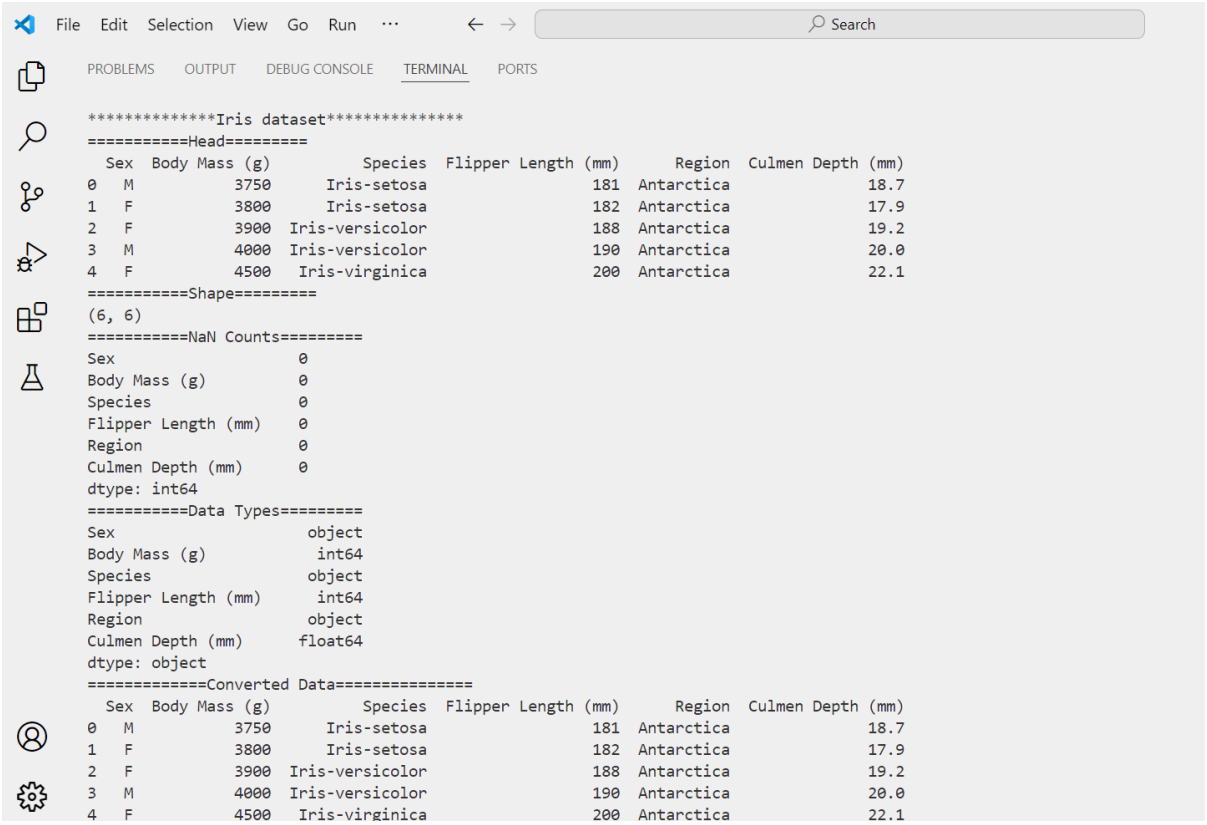
```
print(df.shape)
print("===========NaN Counts=========")
print(df.isna().sum())
print("===========Data Types=========")
print(df.dtypes)
numeric_columns = df.select_dtypes(include=[np.number]).columns
df[numeric_columns] = df[numeric_columns].apply(pd.to_numeric, errors='coerce')
print("=============Converted Data===============")
print(df)
print("=============Data Types After Conversion===============")
print(df.dtypes)
try:
    print("==============Mean====================")
    print(df.mean())
    print("================Median==================")
    print(df.median())
    print("==================Mode=================")
    print(df.mode())
    print("==================Std dev=================")
    print(df.std())
    print("==================Variance=================")
    print(df.var())
except Exception as e:
    print("Error occurred during descriptive statistics computation:")
    print(e)
try:
    print("===========Group by Mean (Body Mass)=========")
    print(df.groupby('Sex')['Body Mass (g)'].mean())
    print("===========Group by Median (Flipper Length)=========")
    print(df.groupby('Species')['Flipper Length (mm)'].median())
    print("===========Group by Describe (Culmen Depth)=========")
    print(df.groupby('Region')['Culmen Depth (mm)'].describe())
except KeyError as ke:
```

```
print(f"KeyError occurred during groupby operation: {ke}")
```

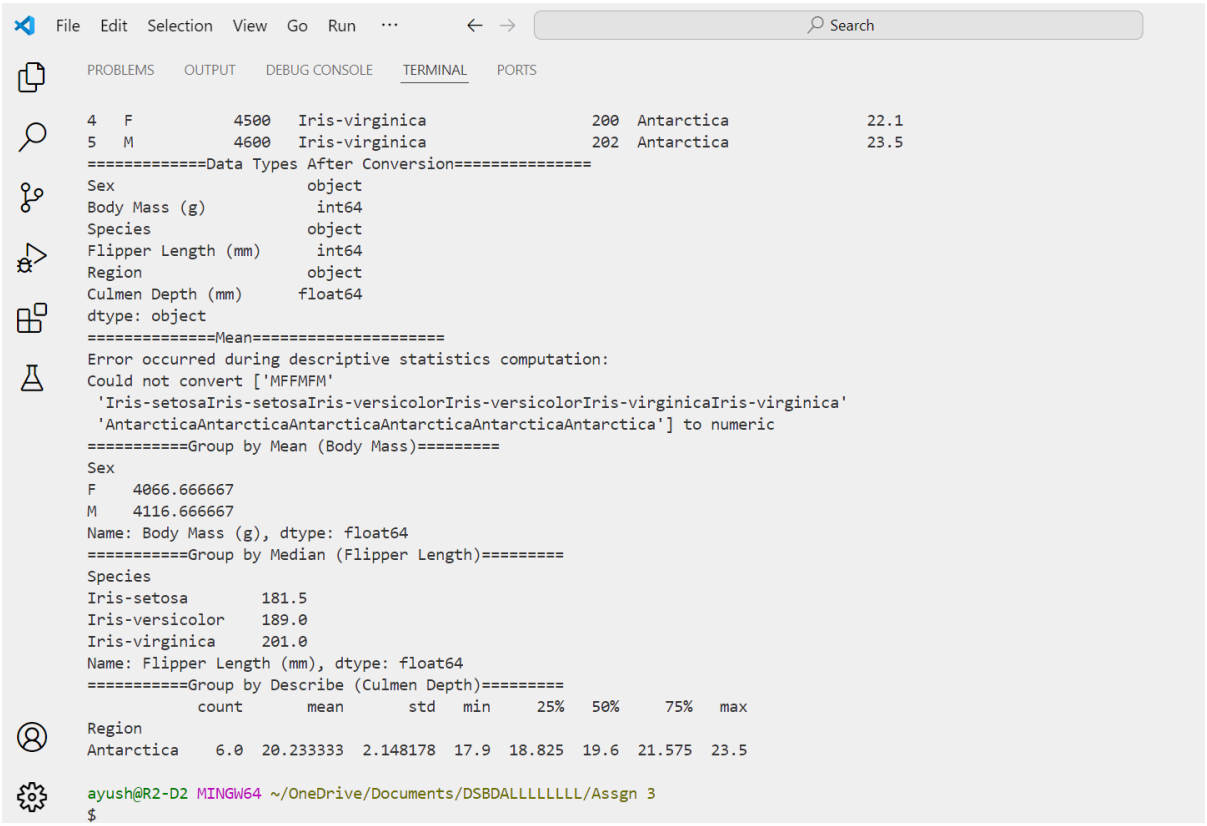
OUPUT-








```
**************Iris dataset**************
===========Head=========
  Sex  Body Mass (g)          Species  Flipper Length (mm)      Region  Culmen Depth (mm)
0   M           3750      Iris-setosa                  181  Antarctica               18.7
1   F           3800      Iris-setosa                  182  Antarctica               17.9
2   F           3900  Iris-versicolor                  188  Antarctica               19.2
3   M           4000  Iris-versicolor                  190  Antarctica               20.0
4   F           4500   Iris-virginica                  200  Antarctica               22.1
===========Shape=========
(6, 6)
===========NaN Counts=========
Sex                    0
Body Mass (g)          0
Species                0
Flipper Length (mm)    0
Region                 0
Culmen Depth (mm)      0
dtype: int64
===========Data Types=========
Sex                    object
Body Mass (g)           int64
Species                object
Flipper Length (mm)     int64
Region                 object
Culmen Depth (mm)     float64
dtype: object
=============Converted Data===============
  Sex  Body Mass (g)          Species  Flipper Length (mm)      Region  Culmen Depth (mm)
0   M           3750      Iris-setosa                  181  Antarctica               18.7
1   F           3800      Iris-setosa                  182  Antarctica               17.9
2   F           3900  Iris-versicolor                  188  Antarctica               19.2
3   M           4000  Iris-versicolor                  190  Antarctica               20.0
4   F           4500   Iris-virginica                  200  Antarctica               22.1
```




```
4   F           4500   Iris-virginica                  200  Antarctica               22.1
5   M           4600   Iris-virginica                  202  Antarctica               23.5
=============Data Types After Conversion===============
Sex                    object
Body Mass (g)           int64
Species                object
Flipper Length (mm)     int64
Region                 object
Culmen Depth (mm)     float64
dtype: object
=============Mean====================
Error occurred during descriptive statistics computation:
Could not convert ['MFFMFM'
 'Iris-setosaIris-setosaIris-versicolorIris-versicolorIris-virginicaIris-virginica'
 'AntarcticaAntarcticaAntarcticaAntarcticaAntarcticaAntarctica'] to numeric
===========Group by Mean (Body Mass)=========
Sex
F    4066.666667
M    4116.666667
Name: Body Mass (g), dtype: float64
===========Group by Median (Flipper Length)=========
Species
Iris-setosa        181.5
Iris-versicolor    189.0
Iris-virginica     201.0
Name: Flipper Length (mm), dtype: float64
===========Group by Describe (Culmen Depth)=========
             count       mean       std   min     25%   50%     75%   max
Region
Antarctica     6.0  20.233333  2.148178  17.9  18.825  19.6  21.575  23.5

ayush@R2-D2 MINGW64 ~/OneDrive/Documents/DSBDALLLLLLL/Assgn 3
$
```