LAB ASSIGNMENT NO - 01

Using pandas in python demonstrate the following operations for the sample dataset given,
i) Indexing of Dataframe
ii) Grouping and aggregating
iii)Adding and removing attributes
iv) Joining dataframes
v) Filtering the data
vi) Handling Missing values

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# BASIC INFORMATION
"""

import pandas as pd
ipldf=pd.read_csv('IPL IMB381IPL2013.csv')
pd.set_option('display.max_columns',10)qa
ipldf.head()

names = list(ipldf.columns)
names

ipldf.shape

ipldf.info()

"""# INDEXING"""

ipldf.loc[0:9]

ipldf[['PLAYER NAME','COUNTRY']][0:9]

ipldf.iloc[4:9,1:4]

"""# GROUPING AND AGGREGATING"""

sold_price_by_age = ipldf.groupby('AGE')['SOLD PRICE'].mean().reset_index()
sold_price_by_age

"""# ADDING AND REMOVING COLUMNS"""

ipldf['PREMIUM']=ipldf['SOLD PRICE']-ipldf['BASE PRICE']
ipldf[['PLAYER NAME','BASE PRICE','SOLD PRICE','PREMIUM']][0:5]

#ipldf.shape
ipldf = ipldf.drop('ECON',axis = 1)
ipldf.shape

"""# MERGING DATAFRAME"""

sold_price_by_age_role = ipldf.groupby(['AGE','PLAYING ROLE'])['SOLD
PRICE'].mean().reset_index()
sold_price_by_age_role
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soldprice_comparison=sold_price_by_age_role.merge(sold_price_by_age,on = 'AGE',how =
'outer')

soldprice_comparison

soldprice_comparison.rename(columns =
{'SOLD PRICE_x':'SOLD_PRICE_AGE_ROLE','SOLD PRICE_y':'SOLD_PRICE_AGE'},
                            inplace = True)

soldprice_comparison

"""# FILTERING"""

soldprice_comparison['CHANGE']=soldprice_comparison.apply(lambda x:
(x.SOLD_PRICE_AGE_ROLE-x.SOLD_PRICE_AGE)/x.SOLD_PRICE_AGE,axis = 1)
soldprice_comparison

soldprice_comparison[soldprice_comparison.CHANGE > 0]

"""# HANDLING NULL VALUES"""

soldprice_comparison[soldprice_comparison.CHANGE < 0]= None
soldprice_comparison

soldprice_comparison[soldprice_comparison.CHANGE.isnull()]

soldprice_comparison = soldprice_comparison.dropna(subset = ['CHANGE'])

soldprice_comparison[soldprice_comparison.CHANGE.isnull()]
```