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import pandas as pd
import numpy as np

# Task 1 (Create a pandas dataframe (DataFrame name as 'df') (10 observation and 5 features))
df = pd.DataFrame([[ 'Lakshi',20,'F',90000,'Vels'],[ 'Swetha',20,'F',75000,'Vels'],[ 'Pavithra',25,'F',80000,'DAV'],
[ 'Raghav',21,'M',np.nan,'PSBB'],[ 'Vaibav',np.nan,'M',58000,'Vels'],[ 'Sara',25,'F',45000,'PSBB'],
[ 'Mukesh',19,'M',60000,'Jutes'],[ 'San',17,'M',16000,'EVPS'],[ 'Sam',22,'M',80000,np.nan],[ 'Mithra',23,'F',45000,'DAV' ]])
df.columns=['Name', 'Age', 'Gender', 'Salary', 'School']
df.index=[1,2,3,4,5,6,7,8,9,10]
df
```

 

	Name	Age	Gender	Salary	School
1	Lakshi	20.0	F	75000.0	Vels
2	Swetha	20.0	F	75000.0	Vels
3	Pavithra	25.0	F	80000.0	DAV
4	Raghav	21.0	M	NaN	PSBB
5	Vaibav	NaN	M	55000.0	Vels
6	Sara	25.0	F	40000.0	PSBB
7	Mukesh	19.0	M	60000.0	Jutes
8	San	17.0	M	65000.0	EVPS
9	Sam	22.0	M	80000.0	NaN
10	Mithra	23.0	F	35000.0	DAV



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# Task 2 (Check the info of 'df')
df.info()

<class 'pandas.core.frame.DataFrame'>
Int64Index: 10 entries, 1 to 10
Data columns (total 5 columns):
#   Column  Non-Null Count  Dtype
---  ------  -
0   Name    10 non-null    object
1   Age      9 non-null     float64
2   Gender   10 non-null    object
3   Salary   9 non-null     float64
4   School   9 non-null     object
dtypes: float64(2), object(3)
memory usage: 480.0+ bytes
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# Task 3 (Check the descriptive statistics of 'df')
df.describe()
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	Age	Salary
count	9.000000	9.000000
mean	21.333333	62777.777778
std	2.692582	16791.201400
min	17.000000	35000.000000
25%	20.000000	55000.000000
50%	21.000000	65000.000000
75%	23.000000	75000.000000
max	25.000000	80000.000000



```
# Task 4 (check the 4th index observation with 'loc' slicing operator.)
# index = 4 implies that the serial number = 5, since index starts from 0
df.loc[5]
```

Name	Vaibav
Age	NaN
Gender	M

```
Salary    55000.0
School    Vels
Name: 5, dtype: object

# Remove nan
df.Age = df.Age.fillna(df.Age.median())
df.Salary = df.Salary.fillna(df.Salary.median())
df.School = df.School.fillna(df.School.mode().iloc[0])
df
```

	Name	Age	Gender	Salary	School	
1	Lakshi	20.0	F	75000.0	Vels	
2	Swetha	20.0	F	75000.0	Vels	
3	Pavithra	25.0	F	80000.0	DAV	
4	Raghav	21.0	M	65000.0	PSBB	
5	Vaibav	21.0	M	55000.0	Vels	
6	Sara	25.0	F	40000.0	PSBB	
7	Mukesh	19.0	M	60000.0	Jutes	
8	San	17.0	M	65000.0	EVPS	
9	Sam	22.0	M	80000.0	Vels	
10	Mithra	23.0	F	35000.0	DAV	