```
import pandas as pd


path="/content/drive/MyDrive/ Dataset/students.csv"
df=pd.read_csv(path)
print(df)
```

```
    Observation  Y-Kappa  ChipRate  BF-CMratio  BlowFlow  ChipLevel4   \
0      31-00:00    23.10    16.520     121.717  1177.607      169.805
1      31-01:00    27.60    16.810      79.022  1328.360      341.327
2      31-02:00    23.19    16.709      79.562  1329.407      239.161
3      31-03:00    23.60    16.478      81.011  1334.877      213.527
4      31-04:00    22.90    15.618      93.244  1334.168      243.131
..          ...      ...       ...         ...       ...          ...
319    10-16:00    23.75    12.667      93.450  1178.252      276.955
320     9-19:00    19.80    12.558      94.352  1184.119      297.071
321     9-20:00    23.01    12.550      90.842  1188.517      289.826
322     9-21:00    24.32    13.083      88.910  1192.879      318.006
323     9-22:00    25.75    13.417      85.451  1186.342      248.312

     T-upperExt-2   T-lowerExt-2    UCZAA  WhiteFlow-4   ...  SteamFlow-4   \
0          358.282        329.545  1.443       599.253  ...        67.122
1          351.050        329.067  1.549       537.201  ...        60.012
2          350.022        329.260  1.600       549.611  ...        61.304
3          350.938        331.142  1.604       623.362  ...        68.496
4          351.640        332.709    NaN       638.672  ...        70.022
..             ...            ...    ...           ...  ...           ...
319        347.286        310.970  1.523       513.956  ...        61.141
320        399.135        319.576  1.451       570.058  ...        67.667
321        373.633        314.591  1.457       549.306  ...        66.446
322        364.081        308.559  1.523       504.852  ...        61.054
323        356.289        310.482  1.474       497.375  ...        58.247

     Lower-HeatT-3  Upper-HeatT-3   ChipMass-4   WeakLiquorF   BlackFlow-2   \
0          329.432        303.099      175.964      1127.197      1319.039
1          330.823        304.879      163.202       665.975      1297.317
2          329.140        303.383      164.013       677.534      1327.072
3          328.875        302.254      181.487       767.853      1324.461
4          328.352        300.954      183.929       888.448      1343.424
..             ...            ...          ...           ...           ...
319        330.117        304.006      148.174      1027.201      1357.271
320        330.848        304.616      165.178       906.962      1311.177
321        330.226        304.686      160.841       887.125      1319.226
322        327.346        304.363      147.589       804.423      1320.225
323        328.092        304.093      144.218       828.328      1320.848

     WeakWashF   SteamHeatF-3   T-Top-Chips-4   SulphidityL-4
0       257.325         54.612         252.077             NaN
1       241.182         46.603         251.406           29.11
2       237.272         51.795         251.335             NaN
3       239.478         54.846         250.312           29.02
4       215.372         54.186         249.916           29.01
..          ...            ...             ...             ...
319     381.643         45.264         252.947           30.86
```

```
319     381.645         43.264         252.947         30.80
320      25.494         50.528         252.092         30.70
321       0.638         45.549         252.438           NaN
322       0.000         43.725         253.176         31.13
323       1.276         43.840         253.216           NaN

[324 rows x 23 columns]
```

```
df.fillna(0,inplace=True)
df
```

	Observation	Y-Kappa	ChipRate	BF-CMratio	BlowFlow	ChipLevel4	T-upperExt-2
0	31-00:00	23.10	16.520	121.717	1177.607	169.805	358.282
1	31-01:00	27.60	16.810	79.022	1328.360	341.327	351.050
2	31-02:00	23.19	16.709	79.562	1329.407	239.161	350.022
3	31-03:00	23.60	16.478	81.011	1334.877	213.527	350.938
4	31-04:00	22.90	15.618	93.244	1334.168	243.131	351.640
...	...	...	...	...	...	...	...
319	10-16:00	23.75	12.667	93.450	1178.252	276.955	347.286
320	9-19:00	19.80	12.558	94.352	1184.119	297.071	399.135
321	9-20:00	23.01	12.550	90.842	1188.517	289.826	373.633
322	9-21:00	24.32	13.083	88.910	1192.879	318.006	364.081
323	9-22:00	25.75	13.417	85.451	1186.342	248.312	356.289

324 rows × 23 columns

```
data=df[df['ChipRate']<50]
print(data.head())
```

```
  Observation  Y-Kappa  ChipRate  BF-CMratio  BlowFlow  ChipLevel4   \
0    31-00:00    23.10    16.520     121.717  1177.607      169.805
1    31-01:00    27.60    16.810      79.022  1328.360      341.327
2    31-02:00    23.19    16.709      79.562  1329.407      239.161
3    31-03:00    23.60    16.478      81.011  1334.877      213.527
4    31-04:00    22.90    15.618      93.244  1334.168      243.131

   T-upperExt-2   T-lowerExt-2    UCZAA  WhiteFlow-4   ...  SteamFlow-4   \
0        358.282        329.545  1.443       599.253  ...        67.122
1        351.050        329.067  1.549       537.201  ...        60.012
2        350.022        329.260  1.600       549.611  ...        61.304
3        350.938        331.142  1.604       623.362  ...        68.496
4        351.640        332.709  0.000       638.672  ...        70.022
```

```
   Lower-HeatT-3  Upper-HeatT-3   ChipMass-4   WeakLiquorF   BlackFlow-2   \
0        329.432        303.099      175.964      1127.197      1319.039
1        330.823        304.879      163.202       665.975      1297.317
2        329.140        303.383      164.013       677.534      1327.072
3        328.875        302.254      181.487       767.853      1324.461
4        328.352        300.954      183.929       888.448      1343.424

   WeakWashF   SteamHeatF-3   T-Top-Chips-4   SulphidityL-4
0     257.325         54.612         252.077            0.00
1     241.182         46.603         251.406           29.11
2     237.272         51.795         251.335            0.00
3     239.478         54.846         250.312           29.02
4     215.372         54.186         249.916           29.01

[5 rows x 23 columns]
```

Start coding or generate with AI.

```
filtered_df = df[df['BlowFlow'] < 50]
print(filtered_df.head())
```

```
    Observation  Y-Kappa  ChipRate  BF-CMratio  BlowFlow  ChipLevel4   \
29      1-04:00    20.14    13.733         0.0       0.0      274.481
179     7-10:00    25.41    13.070         0.0       0.0      278.166
180     7-11:00    24.17    13.750         0.0       0.0      283.738
181     7-12:00    24.18    14.064         0.0       0.0      226.825
182     7-13:00    23.83    14.227         0.0       0.0      220.074

     T-upperExt-2   T-lowerExt-2    UCZAA  WhiteFlow-4   ...  SteamFlow-4   \
29         346.553        309.963  1.546       504.445  ...        62.560
179        351.172        322.353  1.224       542.846  ...        53.461
180        351.135        321.765  1.306       559.529  ...        62.362
181        351.807        322.534  1.348       568.685  ...        55.282
182        352.981        323.718  1.416       594.970  ...        62.476

     Lower-HeatT-3  Upper-HeatT-3   ChipMass-4   WeakLiquorF   BlackFlow-2   \
29         328.914        304.030      151.887       760.020      1300.479
179        318.711        295.300      141.076       863.891      1091.979
180        318.888        296.083      153.706       959.228      1093.035
181        319.266        295.585      146.355       934.326      1093.351
182        321.062        296.846      158.196       977.152      1092.896

     WeakWashF   SteamHeatF-3   T-Top-Chips-4   SulphidityL-4
29      436.406         46.632         252.133           30.07
179      43.288         48.221         252.042           30.18
180      41.454         47.759         250.862            0.00
181      39.037         50.132         250.465           29.88
182      81.065         51.821         249.353            0.00

[5 rows x 23 columns]
```

```
selected_columns=df[['Y-Kappa', 'ChipRate', 'BF-CMratio']]
```

```
summary_statistics=selected_columns.describe()
print(summary_statistics)
```

```
             Y-Kappa    ChipRate  BF-CMratio
count  324.000000  324.000000  324.000000
mean    20.635370   14.126519   82.875272
std      3.070036    2.313019   21.025304
min     12.170000    0.000000    0.000000
25%     18.382500   13.242000   81.011000
50%     20.845000   14.296000   85.828500
75%     23.032500   15.498250   92.123250
max     27.600000   16.958000  121.717000
```