

PML LAB -01

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XLSX,CSV,HTML,DATA FRAME

```
In [1]: import pandas as pan
```

```
In [3]: fl=pan.read_excel("C:\\Users\\user\\Downloads\\PML lab 1\\STUD LIST XL.xlsx")
print(fl)
```

	ROLL NO	NAME	CLASS	DEPARTMENT	TAMIL	ENGLISH	MATHS	TOTAL	\
0	1951307401	ARUN	BSC	MATHS	87	73	85	245	
1	195107402	BALA	BSC	PHYSICS	84	84	80	248	
2	195107403	MONICA	MSC	MATHS	95	75	94	264	
3	195107404	MANI	MSC	CHEMISTRY	86	68	56	210	
4	195107406	KRISHNA	MBA	GENERAL	82	59	76	217	
5	195107407	SUDHARSAN	BSC	MATHS	76	87	71	234	
6	195107408	VENKATESAN	MSC	CS	92	95	76	263	
7	195107409	YOGESH	MSC	STATISTICS	83	84	48	215	
8	165107410	SRIDHAR	MSC	DATASCIENCE	97	86	65	248	

	PERCENTAGE
0	81.666667
1	82.666667
2	88.000000
3	70.000000
4	72.333333
5	78.000000
6	87.666667
7	71.666667
8	82.666667

```
In [18]: fl.size
```

```
Out[18]: 81
```

```
In [19]: fl.shape
```

Out[19]: (9, 9)

```
In [20]: fl.ndim
```

Out[20]: 2

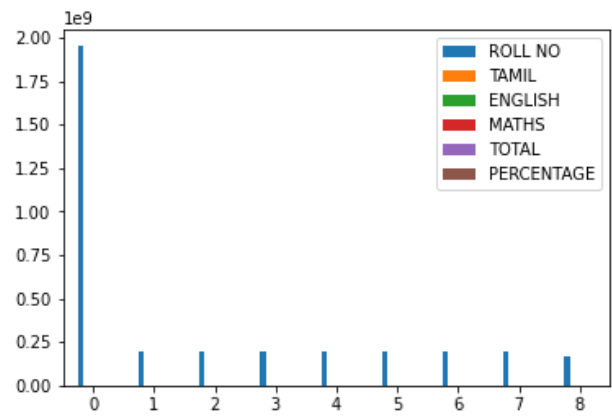
```
In [5]: dat=pan.read_csv("C:\\Users\\user\\Downloads\\PML lab 1\\STUD LIST csv.csv")
dat
```

Out[5]:

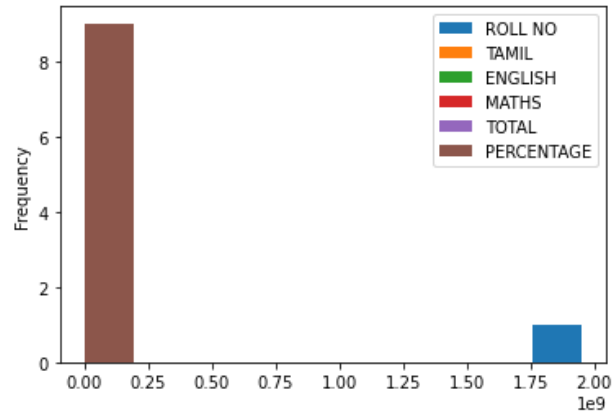
	ROLL NO	NAME	CLASS	DEPARTMENT	TAMIL	ENGLISH	MATHS	TOTAL	PERCENTAGE
0	1951307401	ARUN	BSC	MATHS	87	73	85	245	81.666667
1	195107402	BALA	BSC	PHYSICS	84	84	80	248	82.666667
2	195107403	MONICA	MSC	MATHS	95	75	94	264	88.000000
3	195107404	MANI	MSC	CHEMISTRY	86	68	56	210	70.000000
4	195107406	KRISHNA	MBA	GENERAL	82	59	76	217	72.333333
5	195107407	SUDHARSAN	BSC	MATHS	76	87	71	234	78.000000
6	195107408	VENKATESAN	MSC	CS	92	95	76	263	87.666667
7	195107409	YOGESH	MSC	STATISTICS	83	84	48	215	71.666667
8	165107410	SRIDHAR	MSC	DATASCIENCE	97	86	65	248	82.666667

```
In [32]: dat.plot.bar(rot=2)
```

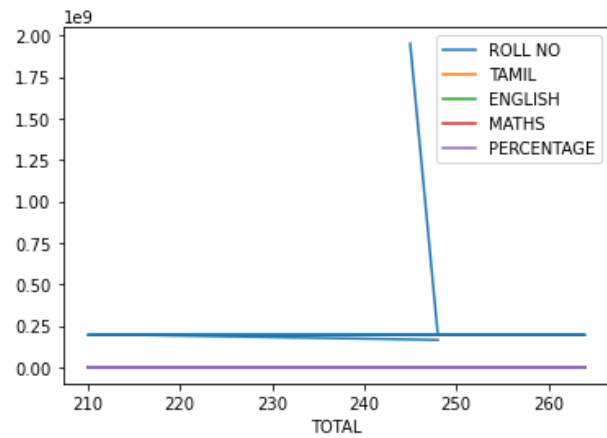
Out[32]: <AxesSubplot:>



```
In [56]: bar_plot=dat.plot.hist(rot=0)
```

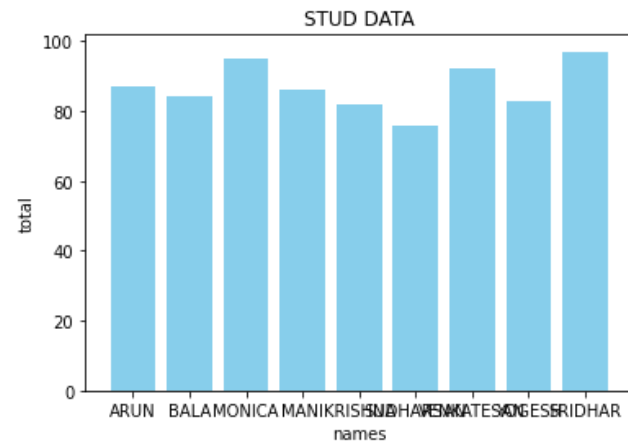


```
In [98]: import matplotlib.pyplot as plt  
dat.set_index("TOTAL").plot()  
plt.show()
```



```
In [60]: datf=pan.DataFrame(dat)
plt.bar(x=datf["NAME"],height=datf["TAMIL"],color="SKYBLUE")
plt.title("STUD DATA")
plt.xlabel("names")
plt.ylabel("total")
```

Out[60]: Text(0, 0.5, 'total')



```
In [8]: f=open("C:\\Users\\user\\Downloads\\PML lab 1\\STUD LIST text.txt")
r=f.read()
print(r)
```

ROLL NO	NAME	CLASS	DEPARTMENT	TAMIL	ENGLISH	MATHS	TOTAL	PERCENTAGE
1951307401	ARUN	BSC	MATHS	87	73	85	245	81.66666667
195107402	BALA	BSC	PHYSICS	84	84	80	248	82.66666667
195107403	MONICA	MSC	MATHS	95	75	94	264	88
195107404	MANI	MSC	CHEMISTRY		86	68	56	210 70
195107406	KRISHNA	MBA	GENERAL	82	59	76	217	72.33333333
195107407	SUDHARSAN		BSC MATHS	76	87	71	234	78
195107408	VENKATESAN		MSC CS	92	95	76	263	87.66666667
195107409	YOGESH	MSC	STATISTICS	83	84	48	215	71.66666667
165107410	SRIDHAR	MSC	DATASCIENCE	97	86	65	248	82.66666667

```
In [9]: k=open("C:\\Users\\user\\Downloads\\PML lab 1\\STUD LIST html.htm","r")
```

```
In [10]: f=k.read()
```

In [11]: f

[illegible]

In [14]: `print(h)`

```
<?xml version="1.0"?>
<?mso-application progid="Excel.Sheet"?>
<Workbook xmlns="urn:schemas-microsoft-com:office:spreadsheet"
  xmlns:o="urn:schemas-microsoft-com:office:office"
  xmlns:x="urn:schemas-microsoft-com:office:excel"
  xmlns:ss="urn:schemas-microsoft-com:office:spreadsheet"
  xmlns:html="http://www.w3.org/TR/REC-html40">
  <DocumentProperties xmlns="urn:schemas-microsoft-com:office:office">
    <Author>1mscda30</Author>
    <LastAuthor>1mscda30</LastAuthor>
    <Created>2022-12-16T03:29:21Z</Created>
    <LastSaved>2022-12-16T03:52:56Z</LastSaved>
    <Version>15.00</Version>
  </DocumentProperties>
  <OfficeDocumentSettings xmlns="urn:schemas-microsoft-com:office:office">
    <AllowPNG/>
  </OfficeDocumentSettings>
  <ExcelWorkbook xmlns="urn:schemas-microsoft-com:office:excel">
    <WindowHeight>9735</WindowHeight>
    <WindowWidth>16384</WindowWidth>
    <WindowTop>0</WindowTop>
    <WindowBottom>0</WindowBottom>
  </ExcelWorkbook>
</Workbook>
```

In [16]: `type(r)`

Out[16]: `str`

In [17]: `type(f1)`

Out[17]: `pandas.core.frame.DataFrame`

2nd model

In [40]: `g=pan.read_excel("C:\\Users\\user\\Downloads\\PML lab 1\\CITY\\CITY LIST xl.xlsx")`
`g`

Out[40]:

	CITY	BIKES	CARS	BICYCLE	TOTAL
0	CHENNAI	29875	12367	5689	47931
1	KERALA	45678	23678	1568	70924
2	ANDRA	54893	34574	2345	91812
3	DELHI	75478	54387	2469	132334
4	UP	34685	83468	56932	175085

```
In [41]: print(g)
```

	CITY	BIKES	CARS	BICYCLE	TOTAL
0	CHENNAI	29875	12367	5689	47931
1	KERALA	45678	23678	1568	70924
2	ANDRA	54893	34574	2345	91812
3	DELHI	75478	54387	2469	132334
4	UP	34685	83468	56932	175085

```
In [44]: g.size
```

```
Out[44]: 25
```

```
In [45]: g.shape
```

```
Out[45]: (5, 5)
```

```
In [46]: g.ndim
```

```
Out[46]: 2
```

```
In [47]: tex=open("C:\\Users\\user\\Downloads\\PML lab 1\\CITY\\CITY LIST text.txt","r")  
read=tex.read()
```

```
In [48]: read
```

```
Out[48]: 'CITY\tBIKES\tCARS\tBICYCLE\tTOTAL\nCHENNAI\t29875\t12367\t5689\t47931\nKERALA\t45678\t23678\t1568\t70924\nANDRA\t54893\t34574\t2345\t91812\nDELHI\t75478\t54387\t2469\t132334\nUP\t34685\t83468\t56932\t175085\n'
```

```
In [49]: print(read)
```

	CITY	BIKES	CARS	BICYCLE	TOTAL
	CHENNAI	29875	12367	5689	47931
	KERALA	45678	23678	1568	70924
	ANDRA	54893	34574	2345	91812
	DELHI	75478	54387	2469	132334
	UP	34685	83468	56932	175085

```
In [50]: html=open("C:\\Users\\user\\Downloads\\PML lab 1\\CITY\\CITY LIST html.htm","r")  
r2=html.read()
```

In [51]: r2

[illegible]

```
=c_rgszClr[1];\n        cells[iCol+1].style.background=c_rgszClr[2];\n        } else {\n        cells[iCol-1].style.background=c_rgszClr[4];\n        cells[iCol].style.background=c_rgszClr[(i==2)?2:4];\n        cells[iCol+1].style.background=c_rgszClr[4];\n        }\n        }\n        }\n        cells[iCol].style.background=c_rgszClr[fActive?2:4];\n        }\n        }\n        }\n        with (aTab[iTab].style) {\n        cursor=(fActive?"default":"hand");\n        color=c_rgszClr[3];\n        }\n        }\n        }\n        }\n        \nfunction fnMouseOverScroll(iCtl)\n{\n    frames['frScroll'].document.all.tdScroll[iCtl].style.color=c_rgszClr[7];\n}\n\nfunction fnMouseOutScroll(iCtl)\n{\n    frames['frScroll'].document.all.tdScroll[iCtl].style.color=c_rgszClr[6];\n}\n\nfunction fnMouseOverTab(iTab)\n{\n    if (iTab!=g_iShCur) {\n        var iCol=fnTabToCol(iTab);\n        with (frames['frTabs'].document.all) {\n            tdTab[iTab].style.background=c_rgszClr[5];\n        }\n    }\n}\n\nfunction fnMouseOutTab(iTab)\n{\n    if (iTab>=0) {\n        var elFrom=frames['frTabs'].event.srcElement;\n        var elTo=frames['frTabs'].event.toElement;\n        if ((!elTo) ||\n            (elFrom.tagName==elTo.tagName) ||\n            (elTo.tagName=="A" && elTo.parentElement!=elFrom) ||\n            (elFrom.tagName=="A" && elFrom.parentElement!=elTo)) {\n            if (iTab!=g_iShCur) {\n                with (frames['frTabs'].document.all) {\n                    tdTab[iTab].style.background=c_rgszClr[1];\n                }\n            }\n        }\n    }\n}\n\nfunction fnSetActiveSheet(iSh)\n{\n    if (iSh!=g_iShCur) {\n        fnSetTabProps(g_iShCur,false);\n        fnSetTabProps(iSh,true);\n        g_iShCur=iSh;\n    }\n}\n\nwindow.g_iIEVer=fnGetIEVer();\nif (window.g_iIEVer>=4)\n    fnBuildFrameset();\n//-->\n</script>\n<![endif]>\n<!--[if gte mso 9]>\n<xml>\n<x:ExcelWorkbook>\n<x:ExcelWorksheets>\n<x:ExcelWorksheet>\n<x:Name>CITY LIST CSV</x:Name>\n<x:WorksheetSource HRef>"CITY%20LIST%20html_files/sheet001.htm"/>\n</x:ExcelWorksheet>\n<x:ExcelWorksheet>\n<x:Name>Sheet2</x:Name>\n<x:WorksheetSource HRef>"CITY%20LIST%20html_files/sheet002.htm"/>\n</x:ExcelWorksheet>\n<x:ExcelWorksheet>\n<x:Name>Sheet3</x:Name>\n<x:WorksheetSource HRef>"CITY%20LIST%20html_files/sheet003.htm"/>\n</x:ExcelWorksheet>\n</x:ExcelWorksheets>\n<x:Stylesheet HRef>"CITY%20LIST%20html_files/stylesheet.css"/>\n<x:WindowHeight>8460</x:WindowHeight>\n<x:WindowWidth>20055</x:WindowWidth>\n<x:WindowTopX>240</x:WindowTopX>\n<x:WindowTopY>105</x:WindowTopY>\n<x:ProtectStructure>False</x:ProtectStructure>\n<x:ProtectWindows>False</x:ProtectWindows>\n</x:ExcelWorkbook>\n</xml>\n<![endif]>\n-->\n</head>\n<frameset rows="*,39" border=0 width=0 frameborder=no framespacing=0>\n<frame src="CITY%20LIST%20html_files/sheet001.htm" name="frSheet">\n<frame src="CITY%20LIST%20html_files/tabstrip.htm" name="frTabs" marginwidth=0 marginheight=0>\n<noframes>\n<body>\n<p>This page uses frames, but your browser doesn't support them.</p>\n</body>\n</noframes>\n</frameset>\n</html>\n'
```

In [52]: `print(r2)`

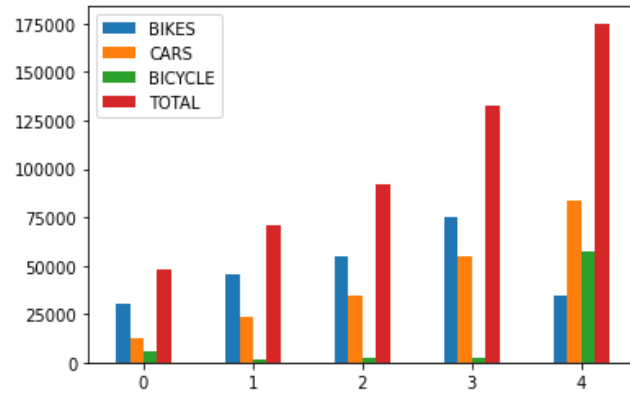
```
fnSetTabProps(g_iShCur,false),
fnSetTabProps(iSh,true);
g_iShCur=iSh;
}
}

window.g_iIEVer=fnGetIEVer();
if (window.g_iIEVer>=4)
    fnBuildFrameset();
//-->
</script>
<![endif]><!--[if gte mso 9]><xml>
<x:ExcelWorkbook>
<x:ExcelWorksheets>
<x:ExcelWorksheet>
<x:Name>CITY LIST CSV</x:Name>
<x:WorksheetSource HRef>"CITY%20LIST%20html_files/sheet001.htm"/>
</x:ExcelWorksheet>
<x:ExcelWorksheet>
<x:Name>Sheet2</x:Name>
```

BAR CHART

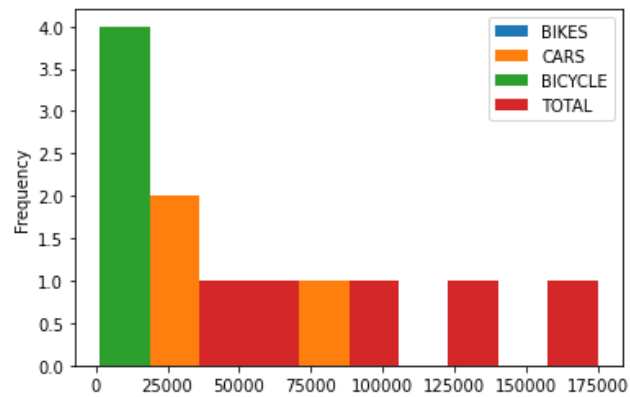
```
In [57]: g.plot.bar(rot=0)
```

```
Out[57]: <AxesSubplot:>
```

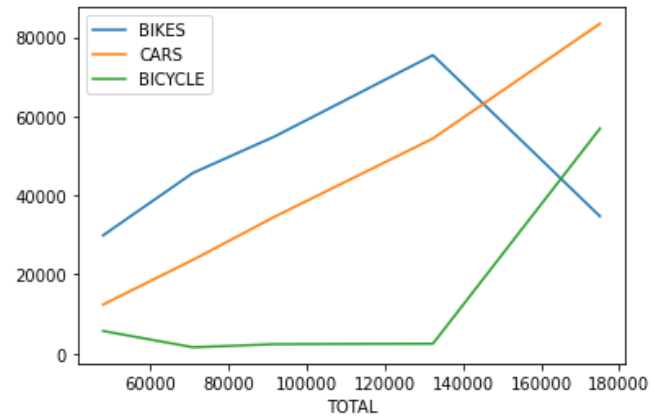


```
In [59]: g.plot.hist(rot=0)
```

```
Out[59]: <AxesSubplot:ylabel='Frequency'>
```



```
In [63]: g.set_index("TOTAL").plot()  
plt.show()
```



```
In [70]: dataframe=pan.DataFrame(g)  
plt.bar(x=dataframe["CITY"],height=dataframe["BIKES"],color="GREEN")  
plt.title("BIKE DETAILS")  
plt.xlabel("CITY")  
plt.ylabel("BIKES")
```

Out[70]: Text(0, 0.5, 'BIKES')

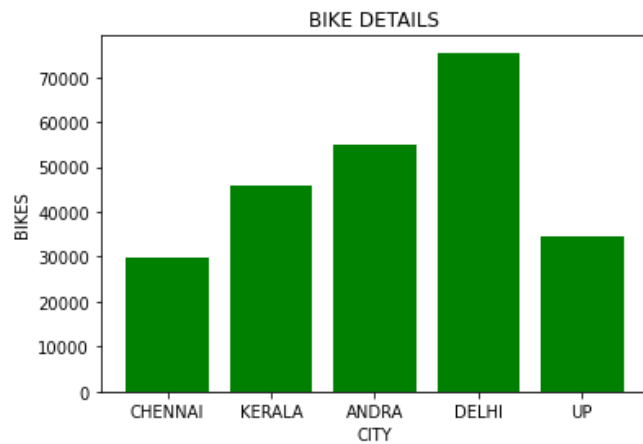


Image Format

```
In [77]: from PIL import Image
```

```
In [99]: pt= Image.open('C:\\Users\\user\\Downloads\\WIN_20221006_14_51_50_Pro.png')
pt.show()
print(pt.format)
print(pt.mode)
print(pt)
```

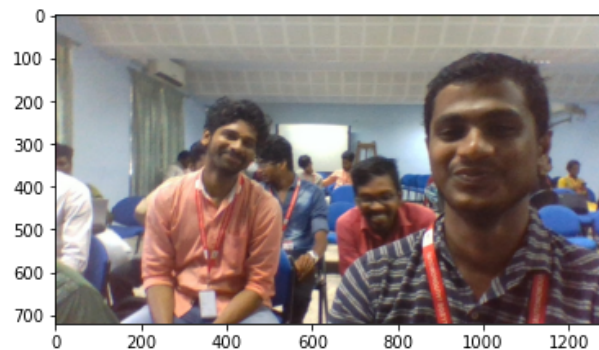
```
PNG
RGB
<PIL.PngImagePlugin.PngImageFile image mode=RGB size=1280x720 at 0x1A3DB7D0550>
```

```
In [80]: #using matplotlib

import matplotlib.image as mimg
import matplotlib.pyplot as mpt
```

```
In [81]: pt = mimg.imread('C:\\Users\\user\\Downloads\\WIN_20221006_14_51_50_Pro.png')
mpt.imshow(pt)
```

```
Out[81]: <matplotlib.image.AxesImage at 0x1a3dc860df0>
```



```
In [82]: pt.size
```

```
Out[82]: 2764800
```

```
In [83]: pt.shape
```

```
Out[83]: (720, 1280, 3)
```

```
In [84]: pt.ndim
```

```
Out[84]: 3
```

```
In [88]: type(pt)
```

```
Out[88]: numpy.ndarray
```

AUDIO FORMAT

```
In [ ]: import os as o
```

```
In [100]: au=o.startfile("C:\\Users\\user\\Downloads\\INTRO_MUSIC.mp3")  
au
```

VIDEO FORMAT

```
In [101]: vi=o.startfile("C:\\Users\\user\\Downloads\\All over in 10 seconds.mp4")  
vi
```