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

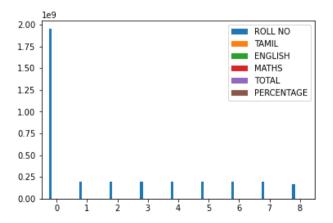
In [5]: dat=pan.read\_csv("C:\\Users\\user\\Downloads\\PML lab 1\\STUD LIST csv.csv")
dat

Out[5]:

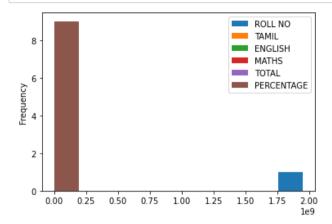
	ROLL NO	NAME	CLASS	DEPARTMENT	TAMIL	ENGLISH	MATHS	TOTAL	PERCENTAGE
0	1951307401	ARUN	BSC	MATHS	87	73	85	245	81.666667
1	195107402	BALA	BSC	PHYSICS	84	84	80	248	82.666667
2	195107403	MONICA	MSC	MATHS	95	75	94	264	88.000000
3	195107404	MANI	MSC	CHEMISTRY	86	68	56	210	70.000000
4	195107406	KRISHNA	MBA	GENERAL	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)

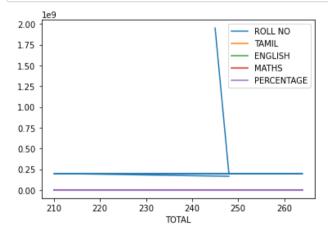
Out[32]: <AxesSubplot:>



### In [56]: bar plot=dat.plot.hist(rot=0)

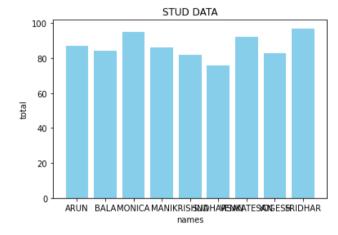


In [98]: import matplotlib.pylab as plt
 dat.set\_index("TOTAL").plot()
 plt.show()



```
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	DEPARTME	NT	TAMIL	ENGLISH	MATHS	TOTAL	PERCENTA	AGE
1951307401	ARUN	BSC	MATHS	87	73	85	245	81.66666	667
195107402	BALA	BSC	PHYSICS	84	84	80	248	82.66666	667
195107403	MONICA	MSC	MATHS	95	75	94	264	88	
195107404	MANI	MSC	CHEMISTE	RY	86	68	56	210	70
195107406	KRISHNA	MBA	GENERAL	82	59	76	217	72.33333	3333
195107407	SUDHARS	AN	BSC	MATHS	76	87	71	234	78
195107408	VENKATES	5AN	MSC	CS	92	95	76	263	87.66666667
195107409	YOGESH	MSC	STATIST	ICS	83	84	48	215	71.66666667
165107410	SRIDHAR	MSC	DATASCIE	ENCE	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

Out[11]: '<html xmlns:v="urn:schemas-microsoft-com:vml"\nxmlns:o="urn:schemas-microsoft-com:office:excel"\nx mlns="http://www.w3.org/TR/REC-html40">\n\n<head>\n<meta name="Excel Workbook Frameset">\n<meta http-equiv=Content-Type content="text/html; charset=wi ndows-1252">\n<meta name=ProgId content=Excel.Sheet>\n<meta name=Generator content="Microsoft Excel 15">\nlink rel=File-List href="STUD%20LIST%20html" rel=File-List href=File-List href=File-List href=File-List href=File-List href=File-List hr files/filelist.xml">\n<![if !supportTabStrip]>\n<link id="shLink" href="STUD%20LIST%20html files/sheet001.htm">\n\n<link id="shLink">\n\n<script lang uage="JavaScript">\n<!--\n var c lTabs=1:\n\n var c rgszSh=new Arrav(c lTabs):\n c rgszSh[0] = "STUD\xa0LIST\xa0text":\n\n\n\n var c rgszClr=new Arrav (8);\n c rgszClr[0]="window";\n c rgszClr[1]="buttonface";\n c rgszClr[2]="windowframe";\n c rgszClr[3]="windowtext";\n c rgszClr[4]="threedlightshado w";\n c rgszClr[5]="threedhighlight";\n c rgszClr[6]="threeddarkshadow";\n c rgszClr[7]="threedshadow";\n\n var g iShCur;\n var g rglTabX=new Array(c lTabs);\n\nfunction fnGetIEVer()\n{\n var ua=window.navigator.userAgent\n var msie=ua.indexOf("MSIE")\n if (msie>0 && window.navigator.platform=="Win3 2")\n return parseInt(ua.substring(msie+5,ua.indexOf(".", msie)));\n else\n return 0;\n}\n\nfunction fnBuildFrameset()\n{\n var szHTML="<frameset ro ws=\\"\*,18\\" border=0 width=0 frameborder=no framespacing=0>"+\n "<frame src=\\""+document.all.item("shLink")[0].href+"\\" name=\\"frSheet\\" noresi ze>"+\n "<frameset cols=\\"54,\*\\" border=0 width=0 frameborder=no framespacing=0>"+\n "<frame src=\\"\\" name=\\"frScroll\\" marginwidth=0 marginhe ight=0 scrolling=no>"+\n "<frame src=\\"\\" name=\\"frTabs\\" marginwidth=0 marginheight=0 scrolling=no>"+\n "</frameset></frameset></frameset> \n with (document) {\n open("text/html","replace"):\n write(szHTML):\n close():\n }\n\n fnBuildTabStrip():\n}\n\nfunction fnBuildTabStrip()\n{\n va r szHTML=\n "<html><head><stvle>.clScroll {font:8pt Courier New;color:"+c rgszClr[6]+":cursor:default:line-height:10pt;}"+\n ".clScroll2 {font:10pt Arial;color:"+c rgszClr[6]+";cursor:default;line-height:11pt;}</style></head>"+\n "<body onclick=\\"event.returnValue=false;\\" ondragstart=\\"event. returnValue=false;\\" onselectstart=\\"event.returnValue=false;\\" bgcolor="+c rgszClr[4]+" topmargin=0 leftmargin=0><table cellpadding=0 cellspacing= 0 width=100%>"+\n ""+\n " "+\n "<td valign=top id=tdScroll class=\\"clScroll\\" onclick=\\"parent.fnFastScrollTabs(0);\\" onmouseover=\\"parent.fnMouseOverScroll(0);\\" onmouseout=\\"parent.fnMouse OutScroll(0);\\"><a>&#171;</a>"+\n "<td valign=top id=tdScroll class=\\"clScroll2\\" onclick=\\"parent.fnScrollTabs(0);\\" ondblclick=\\"parent.fnScrollTabs(0);\\" ondblclick=\\" ondblclick=\" ondblclick=\" ondblclick=\" ondblclick=\" ondblclick=\" ondblclick=\" ondblclick=\" ondblclick=\" ondblclick=\" o fnScrollTabs(0):\\" onmouseover=\\"parent.fnMouseOverScroll(1):\\" onmouseout=\\"parent.fnMouseOutScroll(1):\\"><a>&lt</a>"+\n " d=tdScroll class=\\"clScroll2\\" onclick=\\"parent.fnScrollTabs(1);\\" ondblclick=\\"parent.fnScrollTabs(1);\\" onmouseover=\\"parent.fnMouseOverScrol 1(2);\\" onmouseout=\\"parent.fnMouseOutScroll(2);\\"><a>&gt</a>"+\n "<td valign=top id=tdScroll class=\\"clScroll\\" onclick=\\"parent.fnFastSc rollTabs(1);" onmouseover=\"parent.fnMouseOverScroll(3);\\" onmouseout=\\"parent.fnMouseOutScroll(3);\\"><a>&#187;</a>"+\n "<td style=\\"fon t:1pt\\"> </body></html>";\n\n with (frames[\'frScroll\'].document) {\n open("text/html","replace");\n write(szHTML);\n close ();\n }\n\n szHTML =\n "<html><head>"+\n "<style>A:link,A:visited,A:active {text-decoration:none;"+"color:"+c rgszClr[3]+";}"+\n ".clTab {cursor:ha nd;background:"+c rgszClr[1]+";font:9pt Arial;padding-left:3px;padding-right:3px;text-align:center;}"+\n ".clBorder {background:"+c rgszClr[2]+";fon t:1pt;}"+\n "</style></head><body onload=\\"parent.fnInit():\\" onselectstart=\\"event.returnValue=false:\\" ondragstart=\\"event.returnValue=false i;\n for (i=0;i<iCellCount;i+=2)\n szHTML+="<col width=1><col>";\n\n var iRow;\n for (iRow=0;iRow<6;iRow++) {\n\n szHTML+="<tr>";\n\n if (iRow==5) \n szHTML+="";\n else {\n if (iRow==0) {\n for(i=0;i<iCellCount;i++)\n szHTML+="<td height=1 class=\\"clBo rder\\">";\n } else if (iRow==1) {\n for(i=0;i<c lTabs;i++) {\n szHTML+=" ";\n "  $HTML+=\n$ +");\\">"+\n "<a href=\\""+document.all.item("shLink")[i].href+"\\" target=\\"frSheet\\" id=aTab>&nbsp;"+c rgszSh[i]+"&nbsp;</a>";\n szHTML+="<a id=aTab>&nbsp;</a>";\n } else if (iRow==2) {\n for (i=0;i< c lTabs;i++)\n szHTML+="";\n szHTML+=";\n } els e if (iRow==3) {\n for (i=0:i<iCellCount:i++)\n</pre> szHTML+="":\n } else if (iRow==4) {\n for (i=0:i<c lTabs:i++)\n ="</body></html>";\n with (frames[\'frTabs\'].document) {\n open("text/html","replace");\n charset=document.charset;\n write(szHTML);\n cl ose();\n }\n\nfunction fnInit()\n{\n g rglTabX[0]=0;\n var i;\n for (i=1;i<=c lTabs;i++)\n with (frames[\'frTabs\'].document.all.tbTabs.rows[1].ce lls[fnTabToCol(i-1)])\n g rglTabX[i]=offsetLeft+offsetWidth-6;\n}\n\nfunction fnTabToCol(iTab)\n{\n return 2\*iTab+1;\n}\n\nfunction fnNextTab(fDir) \n{\n var iNextTab=-1;\n var i;\n\n with (frames[\'frTabs\'].document.body) {\n if (fDir==0) {\n if (scrollLeft>0) {\n TabX[i]<scrollLeft;i++);\n if (i<c lTabs)\n</pre> iNextTab=i-1;\n }\n } else {\n if (g rglTabX[c lTabs]+6>offsetWidth+scrollLeft) {\n 0;i<c lTabs&&g rglTabX[i]<=scrollLeft;i++);\n if (i<c lTabs)\n</pre> iNextTab=i;\n }\n }\n }\n return iNextTab;\n}\nfunction fnScrollTabs(fDir) \n{\n var iNextTab=fnNextTab(fDir);\n\n if (iNextTab>=0) {\n frames[\'frTabs\\].scroll(g rglTabX[iNextTab],0);\n return true;\n } else\n return fal se:\n}\n\nfunction fnFastScrollTabs(fDir)\n{\n if (c lTabs>16)\n frames[\'frTabs\'].scroll(g rglTabX[fDir?c\_lTabs-1:0],0);\n else\n if (fnScrollTabs (fDir)>0) window.setTimeout("fnFastScrollTabs("+fDir+");",5);\n}\n\nfunction fnSetTabProps(iTab,fActive)\n{\n var iCol=fnTabToCol(iTab);\n var i;\n\n if (iTab>=0)  ${\n \ with (frames[\frTabs\'].document.all) }\n \ \for (i=0;i<=4;i++) }\n$ with (rows[i]) {\n if  $(i==0)\n$ cells[iCol].style.background=c rgszClr[fActive?0:2];\n else if (i>0 && i<4) {\n if (fActive) {\n cells[iCol-1].style.background=c rg szClr[2];\n cells[iCol].style.background=c rgszClr[0];\n cells[iCol+1].style.background=c rgszClr[2];\n } else {\n if (i== cells[iCol-1].style.background=c rgszClr[2];\n 1) {\n cells[iCol].style.background=c rgszClr[1];\n cells[iCol+1].stvle.backgro und=c rgszClr[2];\n } else {\n cells[iCol-1].style.background=c rgszClr[4];\n cells[iCol].style.background=c rgszClr[(i==2)?2:

```
41:\n
                        cells[iCol+1].stvle.background=c rgszClr[4]:\n
                                                                                                                     }\n
                                                                                                                                       }\n
                                                                                                                                                      } else\n
                                                                                                                                                                                 cells[iCol].stvle.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\nfunctio
n fnMouseOverScroll(iCtl)\n{\n frames[\'frScroll\'].document.all.tdScroll[iCtl].style.color=c rgszClr[7];\n}\n\nfunction fnMouseOutScroll(iCtl)\n{\n f
rames[\'frScroll\'].document.all.tdScroll[iCtl].style.color=c rgszClr[6]:\n}\n\nfunction fnMouseOverTab(iTab)\n{\n if (iTab!=g iShCur) {\n var iCol=f
nTabToCol(iTab);\n with (frames[\'frTabs\'].document.all) {\n tdTab[iTab].style.background=c rgszClr[5];\n }\n }\n\n\nfunction fnMouseOutTab(iTa
b)\n{\n if (iTab>=0) {\n var elFrom=frames[\'frTabs\'].event.srcElement:\n var elTo=frames[\'frTabs\'].event.toElement:\n\n if ((!elTo) ||\n (elF
rom.tagName==elTo.tagName) ||\n (elTo.tagName=="A" && elTo.parentElement!=elFrom) ||\n (elFrom.tagName=="A" && elFrom.parentElement!=elTo)) {\n\n
                                              with (frames[\'frTabs\'].document.all) {\n
                                                                                                                               ion fnSetActiveSheet(iSh)\n{\n if (iSh!=g iShCur) {\n fnSetTabProps(g iShCur,false);\n fnSetTabProps(iSh,true);\n g iShCur=iSh;\n }\n\n\n window.g
iIEVer=fnGetIEVer();\n if (window.g iIEVer>=4)\n fnBuildFrameset();\n//-->\n</script>\n<![endif]><!--[if gte mso 9]><xml>\n <x:ExcelWorkbook>\n <x:
ExcelWorksheets>\n <x:ExcelWorksheet>\n <x:Name>STUD LIST text</x:Name>\n <x:WorksheetSource HRef="STUD%20LIST%20html files/sheet001.htm"/>\n
</x:ExcelWorksheet>\n <\x < \time \frac{1}{2} \t
\n <x:\window\width>\1600</x:\window\width>\n <x:\window\text{TopY}\n <x:\window\text{TopY}\n <x:\text{ProtectStructure} \text{False} </x:\text{ProtectSt}
ructure>\n <x:ProtectWindows>False</x:ProtectWindows>\n </x:ExcelWorkbook>\n</xml><![endif]-->\n</head>\n\n<frameset rows="*.39" border=0 width=0 fra
meborder=no framespacing=0>\n <frame src="STUD%20LIST%20html files/sheet001.htm" name="frSheet">\n <frame src="STUD%20LIST%20html files/tabstrip.htm"
name="frTabs" marginwidth=0 marginheight=0>\n <noframes>\n <body>\n This page uses frames, but your browser doesn\'t support them.\n </body>
>\n </noframes>\n</frameset>\n</html>\n'
```

```
In [12]: print(f)
          var c rgszClr=new Arrav(8);
          c rgszClr[0]="window";
          c rgszClr[1]="buttonface";
          c rgszClr[2]="windowframe";
          c rgszClr[3]="windowtext";
          c rgszClr[4]="threedlightshadow";
          c rgszClr[5]="threedhighlight";
          c rgszClr[6]="threeddarkshadow";
          c rgszClr[7]="threedshadow";
          var g iShCur;
          var g rglTabX=new Array(c lTabs);
         function fnGetIEVer()
          var ua=window.navigator.userAgent
          var msie=ua.indexOf("MSIE")
          if (msie>0 && window.navigator.platform=="Win32")
           return parseInt(ua.substring(msie+5,ua.indexOf(".", msie)));
In [13]: with open("C:\\Users\\user\\Downloads\\PML lab 1\\STUD LIST xml.xml","r") as ran:
             h=ran.read()
```

```
In [14]: print(h)
         <?xml version="1.0"?>
         <?mso-application progid="Excel.Sheet"?>
         <Workbook xmlns="urn:schemas-microsoft-com:office:spreadsheet"</pre>
          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>1mscdsa30</Author>
           <LastAuthor>1mscdsa30</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>
            .... J. 112 Jahr. 24 600 - /112 J. 112 Jah
In [16]: type(r)
Out[16]: str
In [17]: type(fl)
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
             KERALA 45678 23678
                                     1568
                                           70924
              ANDRA 54893 34574
                                     2345
                                           91812
              DELHI 75478 54387
                                     2469 132334
                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\t75
         478\t54387\t2469\t132334\nUP\t34685\t83468\t56932\t175085\n'
In [49]: print(read)
                BIKES
                        CARS
                                BICYCLE TOTAL
         CITY
         CHENNAI 29875
                        12367
                                5689
                                        47931
         KERALA 45678
                        23678
                                1568
                                        70924
         ANDRA
                54893
                        34574
                                2345
                                        91812
               75478
                        54387
                                2469
                                        132334
         DELHI
                 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

Out[51]: '<html xmlns:v="urn:schemas-microsoft-com:vml"\nxmlns:o="urn:schemas-microsoft-com:office:excel"\nx mlns="http://www.w3.org/TR/REC-html40">\n\n<head>\n<meta name="Excel Workbook Frameset">\n<meta http-equiv=Content-Type content="text/html; charset=wi ndows-1252">\n<meta name=ProgId content=Excel.Sheet>\n<meta name=Generator content="Microsoft Excel 12">\nlink rel=File-List href="CITY%20LIST%20html" rel=File-List href="CITY%20html" rel=File-List href= files/filelist.xml">\n<![if !supportTabStrip]>\n<link id="shLink" href="CITY%20LIST%20html files/sheet001.htm">\n<link id="shLink" href="CITY%20LIST%20html files/sheet001.htm">\n<link id="shLink" href="CITY%20LIST%20html files/sheet001.htm">\n<link id="shLink" href="CITY%20LIST%20html files/sheet001.htm">\nink id="shLink" href="CITY%20LIST%20html files/sheet001.htm">\nink id="shLink" href="CITY%20LIST%20html files/sheet001.htm">\n<\draw=\text{ink id="shLink" href="CITY%20html files/sheet001.htm">\n<\draw=\text{ink id="shLink" href="CITY%20html files/sheet001.htm">\n<\draw=\text{ink id="shLink" href="CITY%20html files/sheet001.htm">\n<\draw=\text{ink id="shLink" href="CITY%20html files/sheet001.html files/sheet001 20html files/sheet002.htm">\n<link id="shLink" href="CITY%20LIST%20html files/sheet003.htm">\n\n<link id="shLink">\n\n<script language="JavaScript">\n <!--\n var c lTabs=3:\n\n var c rgszSh=new Array(c lTabs):\n c rgszSh[0] = "CITY\xa0LIST\xa0CSV":\n c rgszSh[1] = "Sheet2":\n c rgszSh[2] = "Sheet 3";\n\n\n var c rgszClr=new Array(8);\n c rgszClr[0]="window";\n c rgszClr[1]="buttonface";\n c rgszClr[2]="windowframe";\n c rgszClr[3]="windowtex t";\n c rgszClr[4]="threedlightshadow";\n c rgszClr[5]="threedhighlight";\n c rgszClr[6]="threeddarkshadow";\n c rgszClr[7]="threedshadow";\n\n var g iShCur;\n var g rglTabX=new Array(c lTabs);\n\nfunction fnGetIEVer()\n{\n var ua=window.navigator.userAgent\n var msie=ua.indexOf("MSIE")\n if (msie>0 && window.navigator.platform=="Win32")\n return parseInt(ua.substring(msie+5,ua.indexOf(".", msie)));\n else\n return 0;\n}\n\nfunction fnBuildFrame set()\n{\n var szHTML="<frameset rows=\\"\*,18\\" border=0 width=0 frameborder=no framespacing=0>"+\n "<frame src=\\""+document.all.item("shLink")[0]. href+"\\" name=\\"frSheet\\" noresize>"+\n "<frameset cols=\\"54.\*\\" border=0 width=0 frameborder=no framespacing=0>"+\n "<frame src=\\"\\" name= \\"frScroll\\" marginwidth=0 marginheight=0 scrolling=no>"+\n "<frame src=\\"\\" name=\\"frTabs\\" marginwidth=0 marginheight=0 scrolling=no>"+\n " </frameset></frameset></frameset>!\n with (document) {\n open("text/html","replace"):\n write(szHTML):\n close():\n }\n\n fnBuildTabStrip():\n} \n\nfunction fnBuildTabStrip()\n{\n var szHTML=\n "<html><head><style>.clScroll {font:8pt Courier New;color:"+c rgszClr[6]+";cursor:default;line-heig ht:10pt;}"+\n ".clScroll2 {font:10pt Arial;color:"+c rgszClr[6]+";cursor:default;line-height:11pt;}</style></head>"+\n "<body onclick=\\"event.retur nValue=false;\\" ondragstart=\\"event.returnValue=false;\\" bgcolor="+c rgszClr[4]+" topmargin=0 leftmarg pt\\">&nbsp:"+\n "<td valign=top id=tdScroll class=\\"clScroll\\" onclick=\\"parent.fnFastScrollTabs(0):\\" onmouseover=\\"parent.fnMouseOverScro ll(0):\\" onmouseout=\\"parent.fnMouseOutScroll(0):\\"><a>&#171:</a>"<td valign=top id=tdScroll class=\\"clScroll2\\" onclick=\\"parent.fnS crollTabs(0);\\" ondblclick=\\"parent.fnScrollTabs(0);\\" onmouseOverScroll(1);\\" onmouseOut=\\"parent.fnMouseOutScroll(1);\\"> <a>&lt</a>"+\n "<td valign=top id=tdScroll class=\\"clScroll2\\" onclick=\\"parent.fnScrollTabs(1);\\" ondblclick=\\"parent.fnScrollTabs(1);\\" onmouseover=\\"parent.fnMouseOverScroll(2);\\" onmouseout=\\"parent.fnMouseOutScroll(2);\\"><a>&gt</a>"+\n "<td valign=top id=tdScroll class= \\"clScroll\\" onclick=\\"parent.fnMouseOutScroll(3);\\" onmouseover=\\"parent.fnMouseOutScroll(3);\\" onmouseout=\\"parent.fnMouseOutScroll(3);\\">< a>#187;</a>"+\n "&nbsp;</bdy></html>";\n\n with (frames[\'frScroll\'].document) {\n open("text/html")} l", "replace"); \n write(szHTML); \n close(); \n \\n\n szHTML =\n "<html><head>"+\n "<style>A:link, A:visited, A:active {text-decoration:none; "+"colo r:"+c rgszClr[3]+":}"+\n ".clTab {cursor:hand:background:"+c rgszClr[1]+":font:9pt Arial:padding-left:3px;padding-right:3px;text-align:center:}"+\n ".clBorder {background:"+c rgszClr[2]+";font:1pt;}"+\n "</style></head><body onload=\\"parent.fnInit();\\" onselectstart=\\"event.returnValue=fals e;\\" ondragstart=\\"event.returnValue=false;\\" bgcolor="+c rgszClr[4]+\n " topmargin=0 leftmargin=0><table id=tbTabs cellpadding=0 cellspacing=0 >":\n\n var iCellCount=(c lTabs+1)\*2:\n\n var i:\n for (i=0:i<iCellCount:i+=2)\n szHTML+="<col width=1><col>":\n\n var iRow;\n for (iRow=0:iRow<6:iRo w++) {\n\n szHTML+="":\n\n if (iRow==5)\n szHTML+="":\n else {\n if (iRow==0) {\n if (iRow==0)}} for(i=0;i<iCellCount;i</pre> szHTML+="";\n } else if (iRow==1) {\n for(i=0;i<c lTabs;i++) {\n</pre> szHTML+="<td height=1 nowra p class=\\"clBorder\\"> ";\n szHTML+=\n "<td id=tdTab height=1 nowrap class=\\"clTab\\" onmouseover=\\"parent.fnMouseOverTab("+i +");\\" onmouseout=\\"parent.fnMouseOutTab("+i+");\\">"+\n "<a href=\\""+document.all.item("shLink")[i].href+"\\" target=\\"frSheet\\" id=aTab>&n bsp;"+c rgszSh[i]+"%nbsp;</a>";\n }\n szHTML+="<a id=aTab>%nbsp;</a> ":\n } else if (iRow==2) {\n for (i=0:i<c lTabs:i++)\n</pre> szHTML+="":\n ="'\td>";\n \ \ else if (iRow==3)  $\{$ \n for (i=0;i<iCellCount;i++)\n szHTML+="";\n } else if  $(iRow==4) {n for (i=0:i<c lTabs:i++)n}$ d>";\n }\n szHTML+="";\n }\n\n szHTML+="</body></html>";\n with (frames[\'frTabs\'].document) {\n open("text/html","replace");\n charset=document.charset;\n write(szHTML);\n close();\n }\n\nfunction fnInit()\n{\n g rglTabX[0]=0;\n var i;\n for (i=1;i<=c lTabs;i++)\n with (frames[\'frTabs\'].document.all.tbTabs.rows[1].cells[fnTabToCol(i-1)])\n g rglTabX[i]=offsetLeft+offsetWidth-6;\n}\n\nfunction fnTabToCol(iTab)\n {\n return 2\*iTab+1;\n\n\nfunction fnNextTab(fDir)\n{\n var iNextTab=-1;\n var i;\n\n with (frames[\'frTabs\'].document.body) {\n if (fDir==0) {\n if (scrollLeft>0) {\n for (i=0;i<c lTabs&&g rglTabX[i]<scrollLeft;i++);\n if (i<c lTabs)\n [c lTabs]+6>offsetWidth+scrollLeft) {\n for (i=0;i<c lTabs&&g rglTabX[i]<=scrollLeft;i++);\n</pre> if (i<c lTabs)\n iNextTab=i;\n }\n }\n r eturn iNextTab;\n\n\nfunction fnScrollTabs(fDir)\n{\n var iNextTab=fnNextTab(fDir);\n\n if (iNextTab>=0) {\n frames[\'frTabs\'].scroll(g rglTabX[iNe xtTabl.0):\n return true:\n } else\n return false:\n}\n\nfunction fnFastScrollTabs(fDir)\n{\n if (c lTabs>16)\n frames[\'frTabs\'l.scroll(g rglTabX [fDir?c lTabs-1:0],0);\n else\n if (fnScrollTabs(fDir)>0) window.setTimeout("fnFastScrollTabs("+fDir+");",5);\n\nfunction fnSetTabProps(iTab,fActi ve)\n{\n var iCol=fnTabToCol(iTab);\n var i;\n\n if (iTab>=0) {\n with (frames[\'frTabs\'].document.all) {\n with (tbTabs) {\n for (i=0;i<=4;i+ cells[iCol].style.background=c rgszClr[fActive?0:2];\n else if (i>0 && i<4) {\n if (fA +) {\n with (rows[i]) {\n ctive) {\n cells[iCol-1].style.background=c rgszClr[2];\n cells[iCol].style.background=c rgszClr[0];\n cells[iCol+1].style.backgr if (i==1) {\n ound=c rgszClr[2];\n } else {\n cells[iCol-1].style.background=c rgszClr[2];\n cells[iCol].style.background

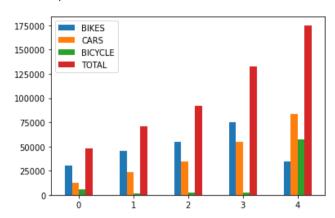
```
=c rgszClr[1]:\n
                                      cells[iCol+1].stvle.background=c rgszClr[2]:\n
                                                                                                                        } else {\n
                                                                                                                                                     cells[iCol-1].stvle.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
cells[iCol].style.background=c rgszClr[fActive?2:4];\n
                                                                                         }\n }\n }\n with (aTab[iTab].style) {\n cursor=(fActive?"default":"hand");\n
[7];\n\nfunction fnMouseOutScroll(iCtl)\n{\n frames[\'frScroll\'].document.all.tdScroll[iCtl].style.color=c rgszClr[6];\n\n\nfunction fnMouseOverT
ab(iTab)\n{\n if (iTab!=g iShCur) {\n var iCol=fnTabToCol(iTab):\n with (frames[\'frTabs\'].document.all) {\n tdTab[iTab].stvle.background=c rgszC
lr[5]:\n }\n }\n\nfunction fnMouseOutTab(iTab)\n{\n if (iTab>=0) {\n var elFrom=frames[\'frTabs\'].event.srcElement:\n var elTo=frames[\'frTabs
\'l.event.toElement:\n\n if ((!elTo) ||\n (elFrom.tagName==elTo.tagName) ||\n (elTo.tagName=="A" && elTo.parentElement!=elFrom) ||\n (elFrom.tagName) ||\n
gName=="A" && elFrom.parentElement!=elTo)) {\n\n if (iTab!=g iShCur) {\n with (frames[\'frTabs\'].document.all) {\n
                                                                                                                                                                                              tdTab[iTab].stvle.backgro
ops(iSh,true);\n g iShCur=iSh;\n }\n\n window.g iIEVer=fnGetIEVer();\n if (window.g iIEVer>=4)\n fnBuildFrameset();\n//-->\n</script>\n<![endif]>
<!--[if gte mso 9]><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 HRe</pre>
f="CITY%20LIST%20html files/sheet002.htm"/>\n </x:ExcelWorksheet>\n <x:ExcelWorksheet>\n <x:Name>Sheet3</x:Name>\n
                                                                                                                                                                                               <x:WorksheetSource HRef</pre>
="CITY%20LIST%20html files/sheet003.htm"/>\n </x:ExcelWorksheet>\n </x:ExcelWorksheets>\n <x:Stvlesheet HRef="CITY%20LIST%20html files/stvlesheet."
css"/>\n <x:WindowHeight>8460</x:WindowHeight>\n <x:WindowWidth>20055</x:WindowWidth>\n <x:WindowTopX>240</x:WindowTopX>\n <x:WindowTopX>105</x:Wi
ndowTopY>\n <x:ProtectStructure>False</x:ProtectStructure>\n <x:ProtectWindows>False</x:ProtectWindows>\n </x:ExcelWorkbook>\n</xml><![endif]-->\n</
head>\n\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 This page uses frames, bu
t your browser doesn't support them.\n </body>\n </noframes>\n</frameset>\n</html>\n'
```

```
In [52]: print(r2)
           IIISectaurrops(g islicur, raise),
           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**

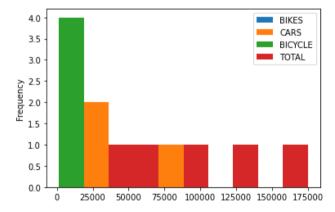
In [57]: g.plot.bar(rot=0)

Out[57]: <AxesSubplot:>

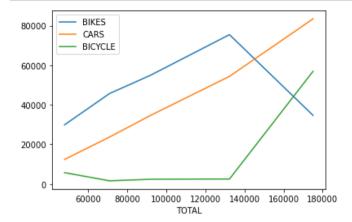


In [59]: g.plot.hist(rot=0)

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



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



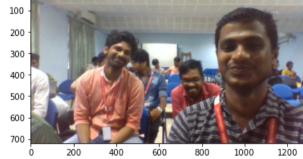
```
In [70]: dataframe=pan.DataFrame(g)
    plt.bar(x=dataframe["CITY"],height=dataframe["BIKES"],color="GREEN")
    plt.title("BIKE DETAILS")
    plt.xlabel("CITY")
    plt.ylabel("BIKES")
```

### 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 matplot
         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>
          100
          200
```



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")
```