In [8]:	<pre>x=[0,1,2,3,4,5] y=[0,10,20,30,40,50] plt.plot(x,y) plt.title("SIMPLE LINE PLOT") plt.xlabel("X-Axis") plt.ylabel("Y-Axis") plt.show()</pre>
	SIMPLE LINE PLOT 50 - 40 - 20 -
In [9]:	x=[0,1,2,3,4,5] y=[i**2 for i in x] #USING CONDITION plt.plot(x,y) plt.title("SIMPLE LINE PLOT")
	plt.xlabel("X-Axis") plt.ylabel("X-squares") plt.show() SIMPLE LINE PLOT 25 - 20 -
	15 0 10 5 0 1 2 XAXIS X.AXIS
In [12]:	from matplotlib import pyplot as plt plt.plot([100, 200, 300, 400, 500]) plt.show() 500 450 350 300
In [15]:	250 - 200 - 150 - 100 - 15 2.0 2.5 3.0 3.5 4.0
	y=[i**2 for i in x] plt.plot(x,y) print(x,y) plt.title("SIMPLE LINE PLOT") plt.xlabel("X-Axis") plt.ylabel("Y-Axis") plt.show() [0 2 4 6 8] [0, 4, 16, 36, 64] SIMPLE LINE PLOT
	60 - 50 - 40 - Y Y 30 - 20 - 10 -
In [45]:	<pre>from matplotlib import pyplot as plt import numpy as np x=np.arange(0,10,2) y=x**2</pre>
	print(x,y) plt.plot(x,y,marker="*",ms=15,mec="g",mfc="y") plt.show() [0 2 4 6 8] [0 4 16 36 64] 60
In [48]:	30 - 20 - 10 - 10 - 10 - 10 - 10 - 10 - 1
Out[48]:	<pre>from matplotlib import pyplot as plt x=[0,1,2,3,4] y1=[40,30,20,60,50] y2=[20,30,40,50,60] plt.plot(x,y1) plt.plot(x,y2) [<matplotlib.lines.line2d 0x1a9770fcdc0="" at="">]</matplotlib.lines.line2d></pre>
	60 - 55 - 50 - 45 - 40 - 35 - 30 - 25 - 25 -
In [73]:	from matplotlib import pyplot as plt x=[0,1,2,3,4] y1=[40,30,20,60,50] y2=[20,30,40,50,60] y3=[60,30,20,50,40]
	<pre>y4=[50, 30, 20, 10, 60] plt.suptitle("MULTIPLE PLOTS") plt.subplot(2, 2, 1) plt.plot(x, y1, marker="d", ms=10, mec="r", mfc="k") plt.title("plot-1") plt.subplot(2, 2, 2) plt.plot(x, y2, marker="o", ms=10, mec="y", mfc="c") plt.title("plot-2") plt.subplot(2, 2, 3) plt.plot(x, y3, marker="h", ms=10, mec="g", mfc="w")</pre>
	plt.plot(x,y3,marker="h",ms=10,mec="g",mrc="w") plt.subplot(2,2,4) plt.plot(x,y4,marker="*",ms=10,mec="b",mfc="y") plt.title("plot-4") plt.show() MULTIPLE PLOTS plot-2 60 MULTIPLE PLOTS
	40 - 40 - 20 - 1 plot-3 3 4 60 - 40 - 40 - 40 - 40 - 40 - 40 - 40
In [96]:	#pie chart from matplotlib import pyplot as plt student_performance=["Excellent", "Good", "Average", "poor"] student_values=[15, 25, 12, 8] plt.figure(figsize=(8, 10))
	plt.pie(student_values, labels=student_performance, startangle=90, explode=[0.2,0,0,0], shadow=True, colors=["black", "blue", "red", "yellow"], autopct="%2.:plt.legend(title="PERFORMANCES") plt.show() PERFORMANCES Description
	13.3% 20.0% Average
	41.7% Good
TU [30]:	<pre>#BAR CHART from matplotlib import pyplot as plt x=['2017','2018','2019','2020'] y=[1256,305,354,276] c=["black","magenta","red","blue"] plt.xlabel("Year") plt.ylabel("Placements") plt.bar(x,y,color=c,width=0.3) plt.show()</pre>
	1200 - 1000 - 1000 - 1000 - 1000 - 1000 -
In [18]:	from matplotlib import pyplot as plt x=['A','B','C','D'] y=[10,20,40,30,]
	<pre>p=[10,20,40,30,] c=["black", "red", "blue", "cyan"] plt.barh(x,y,color=c,height=0.5) plt.show()</pre>
In [60]:	A -
	year=['2017','2018','2019','2020'] placements=[125,305,354,276] cse=[75,80,47,82] it=[46,58,35,52] ece=[67,59,72,62] ece_start=[cse[i]+it[i] for i in range(len(cse))] plt.xlabel("Year") plt.ylabel("Placements") plt.title("PLACEMENTS COMPARISION") plt.bar(year,cse,width=0.3,color="red") plt.bar(year,it,bottom=cse,width=0.3,color="blue") plt.bar(year,ece,bottom=ece_start,width=0.3,color="green")
	plt.ylim(0,245) plt.show() PLACEMENTS COMPARISION PLACEMENTS COMPARISION 50 -
In [85]:	from matplotlib import pyplot as plt year=['2017','2018','2019','2020'] placements=[125,305,354,276] cse=[75,80,47,82] it=[46,58,35,52]
	<pre>ece=[67, 59, 72, 62] eee=[53, 47, 60, 38] ece_start=[cse[i]+it[i] for i in range(len(cse))] eee_start=[ece_start[i]+ece[i] for i in range(len(ece))] plt.xlabel("Year") plt.ylabel("Placements") plt.title("PLACEMENTS COMPARISION USING STACKED BAR") plt.barh(year, cse, height=0.4, color="red", label="CSE") plt.barh(year, it, left=cse, height=0.4, color="blue", label="IT") plt.barh(year, ece, left=ece_start, height=0.4, color="green", label="ECE") plt.barh(year, eee, left=eee_start, height=0.4, color="magenta", label="EEE") plt.legend(title="PLACEMENTS")</pre>
	plt.xlim(0,350) plt.show() PLACEMENTS COMPARISION USING STACKED BAR 2020 PLACEMENTS CSE IT EEE
In []:	2019 2018 2018 2017 2017 Year
In [88]:	#GROUP BAR CHARTS OR MULTIPLE BARCHARTS import matplotlib.pyplot as plt import numpy as np years=['2017', "2018", "2019", "2020"] cse=[74,82,89,79] it=[58,72,76,61]
	<pre>ece=[67,74,81,41] eee=[53,45,57,41] w=0.2 plt.figure(figsize=(10,7)) #LOCATIONS TO PLOT cse_bar=np.arange(len(years)) it_bar=[i+w for i in cse_bar] ece_bar=[i+w for i in it_bar] eee_bar=[i+w for i in ece_bar]</pre>
	<pre>print(cse_bar) print(ece_bar) print(eee_bar) plt.bar(cse_bar,cse,width=w,label="cse") plt.bar(it_bar,it,width=w,label="it") plt.bar(ece_bar,ece,width=w,label="ece") plt.bar(ece_bar,ece,width=w,label="ece") plt.bar(ece_bar,ece,width=w,label="ece")</pre>
	<pre>#CHANGE THE LABELS plt.xticks(cse_bar+w+w/2, years) plt.ylim(0,120) plt.title("PLACEMENT COMPARISION") plt.xlabel("Y E A R S") plt.ylabel("Placements Comparision") plt.legend() plt.show()</pre> [0 1 2 3] [0.2, 1.2, 2.2, 3.2]
	[0.4, 1.4, 2.400000000000000, 3.4000000000000000000000000000000000000
	Placements Comparision
In [102	#HISTOGRAM CHARTS from matplotlib import pyplot as plt
	<pre>marks=[90,44,80,55,69,20,10,30,25] grade_intervals=[0,35,70,100] plt.title("STUDENT GRADE") plt.hist(marks, grade_intervals, histtype="stepfilled", rwidth=0.7, facecolor="blue") plt.xticks([0,35,70,100]) plt.xlabel("percentage") plt.ylabel("no. of students") plt.show()</pre> STUDENT GRADE
	4.0 - 3.5 - 3.0 - 519 - 525 -
In [134	#SCATTER PLOT from matplotlib import pyplot as plt x=[1,2,3,4,5,6] y=[10,50,100,80,60,90]
	<pre>y=[10,50,100,80,60,90] #c=["red", "brown", "orange", "violet", "pink", "black"] size=[10,110,90,50,200,250] plt.scatter(x,y,color="black",s=size,alpha=1,label="2019") x=[1,2,3,4,5,6] y=[100,50,60,30,70,20] #c=["red", "brown", "orange", "violet", "pink", "black"] size=[10,110,90,80,200,250] plt.scatter(x,y,color="red",s=size,alpha=1,label="2020") plt.legend()</pre>
	plt.legend() plt.show() 100
In [173	#grid lines from matplotlib import pyplot as plt
	<pre>from matplotlib import pyplot as plt x=[1,2,3,4,5] y=[30,50,20,10,60] plt.plot(x,y,marker=".",ms="15",mec="black",mfc="red") plt.grid(axis="both",ls="dashdot",color="black",lw=1,) plt.show()</pre>
	20 10 10 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
In [195	<pre>#LINES from matplotlib import pyplot as plt import numpy as np x=np.arange(0,10,2) y=x**2 print(x,y) plt.title("lines")</pre>
	plt.plot(x,y,lw="3",c="violet",marker="*",ms="15",mec="black",mfc="green") plt.show() [0 2 4 6 8] [0 4 16 36 64] lines 60 -
In [13]:	30 - 20 - 10 - 10 - 10 - 10 - 10 - 10 - 1
	<pre>from matplotlib import pyplot as plt x=[10,20,30,40,50] y=[200,100,400,300,500] colors=[70,10,90,60,30] sizes=[100,300,50,200,400] plt.scatter(x,y,c=colors,s=sizes,cmap="rainbow",alpha=0.5) plt.colorbar() plt.show()</pre>
	500 - 450 - 400 - 350 - 300 - 250 - 200 - 150
In []:	150 - 100 - 10 20 30 40 50 - 10 - 20 10