1. **Bar graph**

**\* Load the built-in dataset 'auto'**

**sysuse auto, clear**

**\* Simple bar graph for 'rep78'**

**graph bar (count), over(rep78) title("Frequency of Repair Records")**

****

**\* Bar graph with mean 'price' by 'rep78'**

**graph bar (mean) price, over(rep78) title("Mean Price by Repair Record")**

****

**\* Stacked bar graph for 'rep78' by 'foreign'**

**graph bar (count), over(rep78) by(foreign)**

****

**\* Bar graph with mean 'price' by 'rep78' and 'foreign'**

**graph bar (mean) price, over(rep78) by(foreign, total)**

****

1. **Pie charts**

\* Load the built-in dataset 'auto'

sysuse auto, clear

\* Example 1: Pie chart for car type

graph pie, over(foreign) title("Distribution of Car Types")



\* Example 2: Pie chart for repair records

graph pie, over(rep78) title("Distribution of Repair Records")



\* Example 3: Pie chart with percentages for car type

graph pie, over(foreign) plabel(\_all percent) title("Distribution of Car Types with Percentages")



\* Example 4: Pie chart for combined variable (foreign by rep78)

graph pie, by(rep78) over(foreign) plabel(\_all percent)



1. **Line chart**

\* Load the built-in dataset 'auto'

sysuse auto, clear

\* Calculate mean price by MPG

collapse (mean) price, by(mpg)

\* Line graph for average price by MPG

twoway (line price mpg, lcolor(red) lwidth(medium)), title("Average Car Price by MPG") ///

xtitle("Miles per Gallon (MPG)") ytitle("Average Price")



\* Load the built-in dataset 'uslifeexp'

sysuse uslifeexp, clear

\* Example 1: Line graph for life expectancy by year

twoway (line le year, lcolor(blue) lwidth(medium)), title("Life Expectancy Over Time") ///

xtitle("Year") ytitle("Life Expectancy")



\* Example 2: Line graph for life expectancy and fertility by year

twoway (line le\_male year, lcolor(blue) lwidth(medium)) ///

(line le\_female year, lcolor(red) lwidth(medium)), ///

title("Life Expectancy : Male vs. Female") ///

xtitle("Year") ytitle("Age") ///

legend(order(1 "Male" 2 "Female"))



1. **Scatter plot**

**\* Load the built-in dataset 'auto'**

**sysuse auto, clear**

**\* Basic scatter plot with title for 'price' vs. 'mpg'**

**scatter price mpg, title("Scatter Plot of Price vs MPG")**

****

**\* Scatter plot with fitted line and title for 'price' vs. 'mpg'**

**twoway (scatter price mpg) (lfit price mpg), title("Scatter Plot of Price vs MPG with Fitted Line")**

****

**\* Scatter plot with different markers and title for 'foreign' and 'domestic' cars**

**twoway (scatter price mpg if foreign == 0, mcolor(blue) msymbol(O)) ///**

**(scatter price mpg if foreign == 1, mcolor(red) msymbol(T)), ///**

**title("Scatter Plot of Price vs MPG by Car Type") ///**

**legend(label(1 "Domestic") label(2 "Foreign"))**

****