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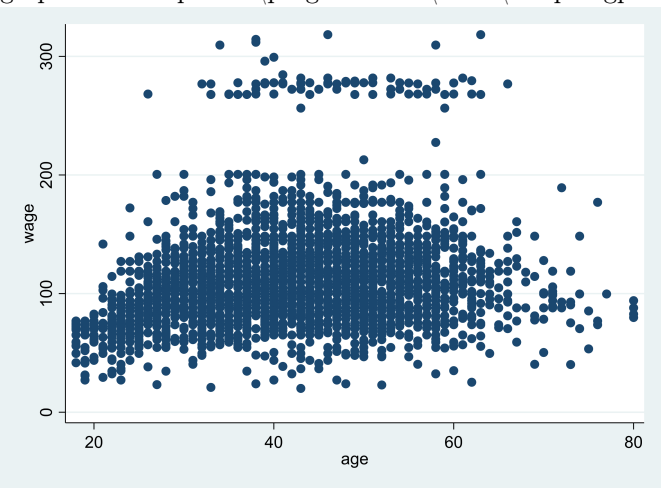
homework2:Using stata / Data source:wage.csv /publish in github/using lyx

```
cd "E:\program data\stata"
E:\program data\stata
insheet using wage.csv,clear
(13 vars, 3,000 obs)
*draw scatter
twoway (scatter wage age), ytitle(wage) xtitle(age)
graph save Graph "E:\program data\stata\Graph1.gph"
```




```
*draw scatter and fitted curve
twoway (scatter wage age) (lfit wage age)
```

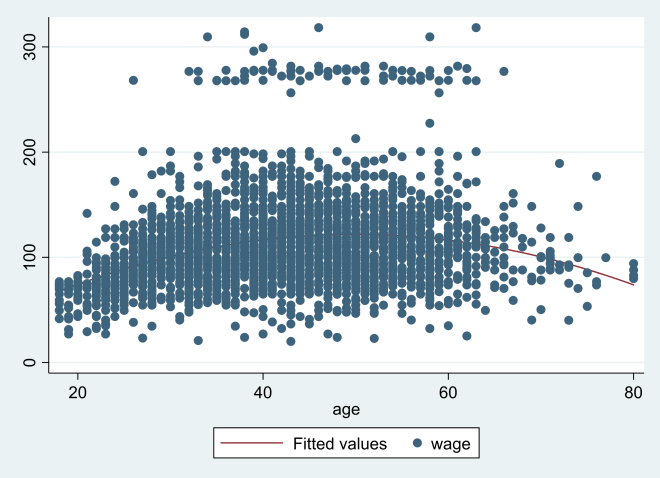

```
*(age)quadratic regression
gen age2=age^2
reg wage age age2
ssc install asdoc, replace
```

. asdoc reg wage age age2
Linear regression

wage	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
age	5.294	0.389	13.62	0.000	4.532	6.056
age2	-0.053	0.004	-11.96	0.000	-0.062	-0.044
Constant	-10.425	8.190	-1.27	0.203	-26.483	5.633
Mean dependent var	111.704	SD dependent var	41.729			
R-squared	0.082	Number of obs	3000.000			
F-test	134.004	Prob > F	0.000			
Akaike crit. (AIC)	30648.799	Bayesian crit. (BIC)	30666.818			

**** p<0.01, ** p<0.05, * p<0.1*

*(age)quadratic scatter and fitted curve
twoway (qfit wage age), ytitle(wage) xtitle(age)
graph save Graph "E:\program data\stata\Graph3.gph"
twoway (scatter wage age), ytitle(wage) xtitle(age)
graph save Graph "E:\program data\stata\Graph4.gph"
graph twoway (qfit wage age)(scatter wage age)
graph save Graph "E:\program data\stata\Graph5.gph"



*(age)cubic regression
gen age3=age^3
gen age4=age^4
reg wage age age2 age3
Linear regression

wage	Coef.	St.Err.	t-value	p-value	[95% Conf	Int
age	10.190	1.605	6.35	0.000	7.043	13.

age2	-0.168	0.037	-4.56	0.000	-0.240	-0.
age3	0.001	0.000	3.14	0.002	0.000	0.0
Constant	-75.244	22.184	-3.39	0.001	-118.741	-31
Mean dependent var	111.704	SD dependent var	41.729			
R-squared	0.085	Number of obs	3000.000			
F-test	92.894	Prob > F	0.000			
Akaike crit. (AIC)	30640.922	Bayesian crit. (BIC)	30664.947			

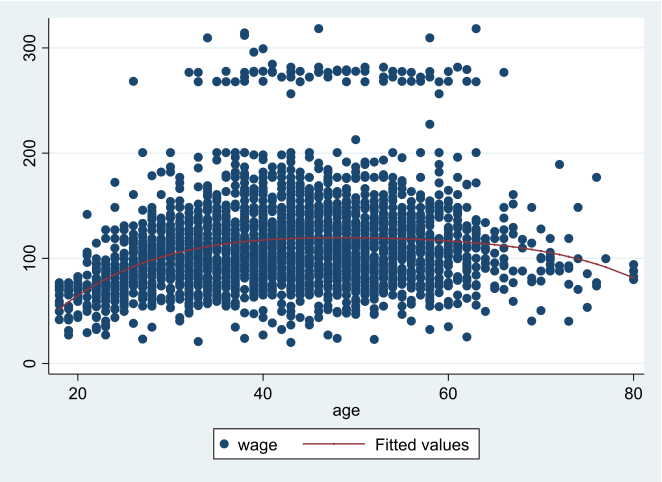
*** p<0.01, ** p<0.05, * p<0.1

*(age)cubic scatter and fitted curve
predict fitted
scatter wage age || line fitted age,sort scheme(s1color)
graph save Graph "E:\program data\stata\Graph6.gph"

*(age)biquadratic regression
reg wage age age2 age3 age4
asdoc reg wage age age2 age3 age4

Linear regression

*(age)biquadratic scatter and fitted curve
predict wage_hat
sort age
twoway(scatter wage age)(connect wage_hat age,msize(vtiny))


300
200
100
0
20
40
60
80
age
wage
Fitted values