```
1. Adding x7, FStat = 52.8643, pValue = 4.65713e-12
```

2. Adding x9, FStat = 12.2595, pValue = 0.000549172

ans =

Linear regression model:

 $y \sim 1 + x7 + x9$

Estimated Coefficients:

Estimate SE tStat pValue

(Intercept) -0.07989 0.021017 -3.8011 0.0001815 x7 0.42798 0.072422 5.9096 1.1323e-08 x9 0.2798 0.079911 3.5014 0.00054917

Number of observations: 250, Error degrees of freedom: 247

Root Mean Squared Error: 0.205

R-squared: 0.215, Adjusted R-Squared 0.208

F-statistic vs. constant model: 33.8, p-value = 1.09e-13

- 1. Adding x9, FStat = 194.2731, pValue = 5.33475e-33
- 2. Adding x7, FStat = 59.7007, pValue = 2.7694e-13
- 3. Adding x14, FStat = 24.0339, pValue = 1.71993e-06
- 4. Adding x1, FStat = 8.2303, pValue = 0.0044791
- 5. Adding x1:x7, FStat = 19.8006, pValue = 1.30753e-05
- 6. Adding x7:x14, FStat = 19.0514, pValue = 1.88315e-05
- 7. Adding x1:x14, FStat = 13.2175, pValue = 0.000338786

ans =

Linear regression model:

 $y \sim 1 + x9 + x1*x7 + x1*x14 + x7*x14$

SE

Estimated Coefficients:

Estimate

(Intercept) 0.050939 0.098373 0.51782 0.60506 -0.162690.1983 -0.820430.41278 x1 x7 0.77335 0.272 2.8432 0.0048484 х9 0.87475 0.081238 10.768 2.4009e-22 x14 -0.849950.27356 -3.1070.0021154 -2.959 0.42476 -6.9663 3.0577e-11 x1:x7 x1:x14 1.5806 0.43476 3.6356 0.00033879 x7:x14 2.3483 0.51269 4.5804 7.432e-06

tStat

pValue

Number of observations: 250, Error degrees of freedom: 242

Root Mean Squared Error: 0.178

R-squared: 0.676, Adjusted R-Squared 0.667

F-statistic vs. constant model: 72.2, p-value = 1.02e-55

- 1. Adding x9, FStat = 194.3202, pValue = 5.264423e-33
- 2. Adding x7, FStat = 58.8765, pValue = 3.88188e-13
- 3. Adding x14, FStat = 28.4994, pValue = 2.12968e-07

- 4. Adding x12, FStat = 6.8697, pValue = 0.0093154
- 5. Adding x7:x12, FStat = 22.879, pValue = 2.9874e-06
- 6. Adding x12:x14, FStat = 22.8699, pValue = 3.00682e-06
- 7. Adding x7:x14, FStat = 16.121, pValue = 7.93059e-05
- 8. Adding x7:x9, FStat = 7.3282, pValue = 0.0072738

ans =

Linear regression model:

 $y \sim 1 + x7*x9 + x7*x12 + x7*x14 + x12*x14$

Estimated Coefficients:

Es	stimate	SE tStat	: pValu	e
_				
(Intercept)	-0.10788	0.12409	-0.86933	0.38553
x7	2.2309	0.41685	5.3519 2	.0253e-07
x9	1.1835	0.16327	7.2488 5	.6815e-12
x12	0.16636	0.21507	0.77348	0.43999
x14	-1.4366	0.32165	-4.4663	1.2238e-05
x7:x9	-1.5451	0.57076	-2.7071	0.0072738
x7:x12	-4.9836	0.69401	-7.1809	8.5652e-12
x7:x14	3.1454	0.64835	4.8515	2.2011e-06
x12:x14	2.1373	0.37588	5.6861	3.7458e-08

Number of observations: 250, Error degrees of freedom: 241

Root Mean Squared Error: 0.197

R-squared: 0.7, Adjusted R-Squared 0.69

F-statistic vs. constant model: 70.3, p-value = 1.08e-58

- 1. Adding x9, FStat = 195.0446, pValue = 4.293155e-33
- 2. Adding x7, FStat = 58.1532, pValue = 5.22543e-13
- 3. Adding x14, FStat = 24.2021, pValue = 1.5885e-06
- 4. Adding x11, FStat = 8.4393, pValue = 0.0040077

ans =

Linear regression model:

$$y \sim 1 + x7 + x9 + x11 + x14$$

Estimated Coefficients:

E	stimate	SE	tStat p	oValue	
_					
(Intercept) x7 x9 x11 x14	-0.2100 0.53695 1.0371 -1.7707 0.50296	6 0.04 0.0877 0.09781 0.609! 0.101	47 6.11 17 10.60 52 -2.9	0.004	6e-09 2e-22 10077

Number of observations: 250, Error degrees of freedom: 245

Root Mean Squared Error: 0.238

R-squared: 0.601, Adjusted R-Squared 0.595

F-statistic vs. constant model: 92.3, p-value = 9.15e-48