

Stepwise Regression in R

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World Happiness Report

Load in Packages

```
library("IDPmisc")
```

Assumption Testing

Data Wrangling

```
worldHappiness1 <- NaRV.omit(worldHappiness)
```

```
worldHappiness2 <- worldHappiness1[,3:9]
```

Backward Elimination

```
FitAll = lm(Score ~., data=worldHappiness2)  
summary(FitAll)
```

First four are significant, but not the rest - GDP, social support, healthy life expectancy, freedom

```
step(FitAll, direction="backward")
```

The smaller the better on the AIC - and it is not absolute value

Forward Selection

```
fitstart = lm(Score ~ 1, data=worldHappiness2)  
summary(fitstart)
```

```
step(fitstart, direction='forward', scope=(~GDP.per.capita + Social.support + Healthy.life.expectancy +  
Freedom.to.make.life.choices + Generosity + Perceptions.of.corruption))
```

Ended up with GDP, freedom, social support, healthy life expectancy, and corruption - so the first four that were originally sig.

Hybrid

```
step(fitstart, direction="both", scope=formula(FitAll))
```

Same ones come up again

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