Introduction to Machine Learning - Lab 7
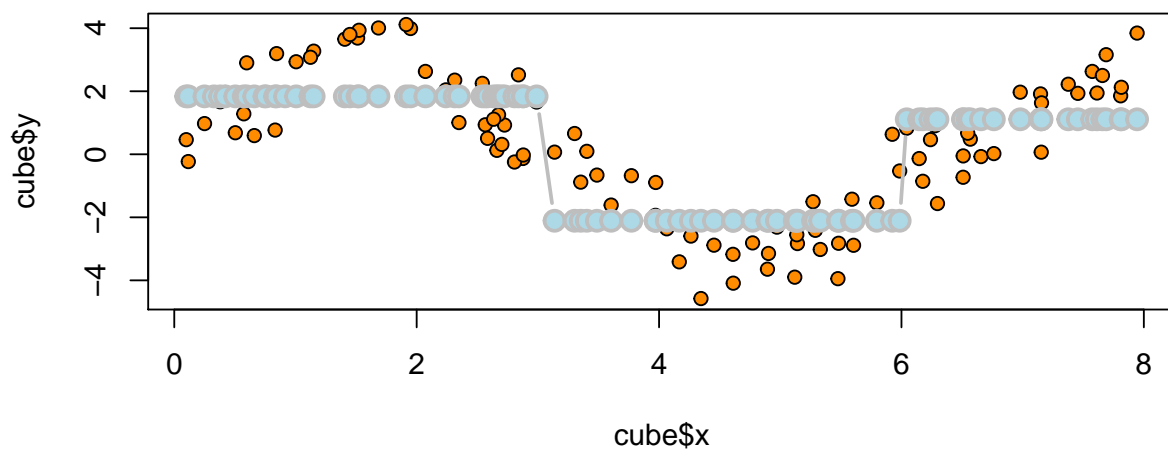
Gustav Sternelöv

Friday, November 27, 2015

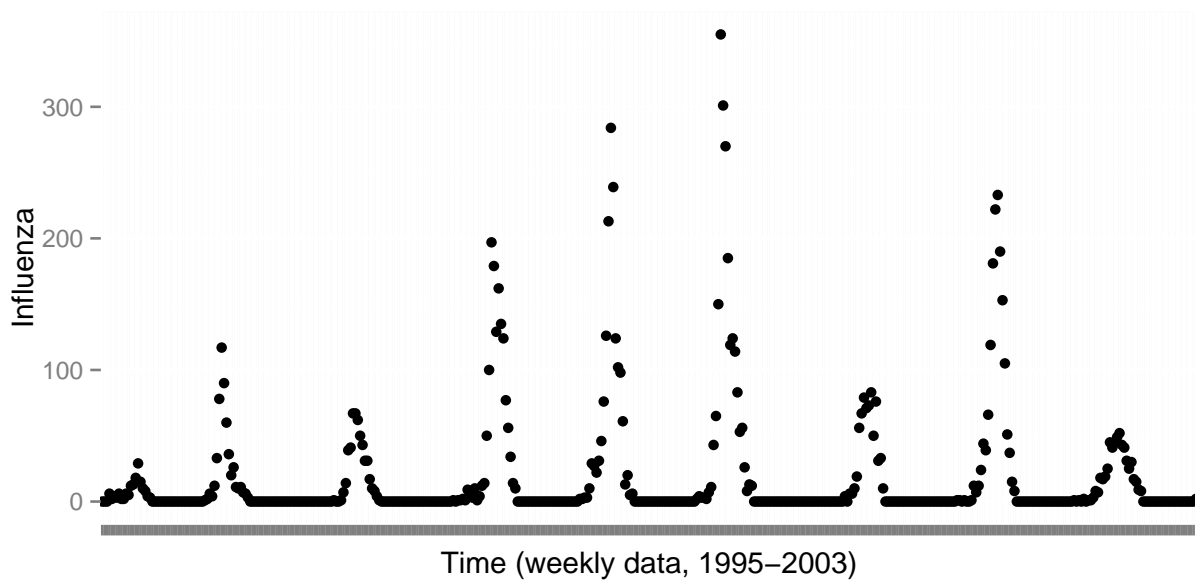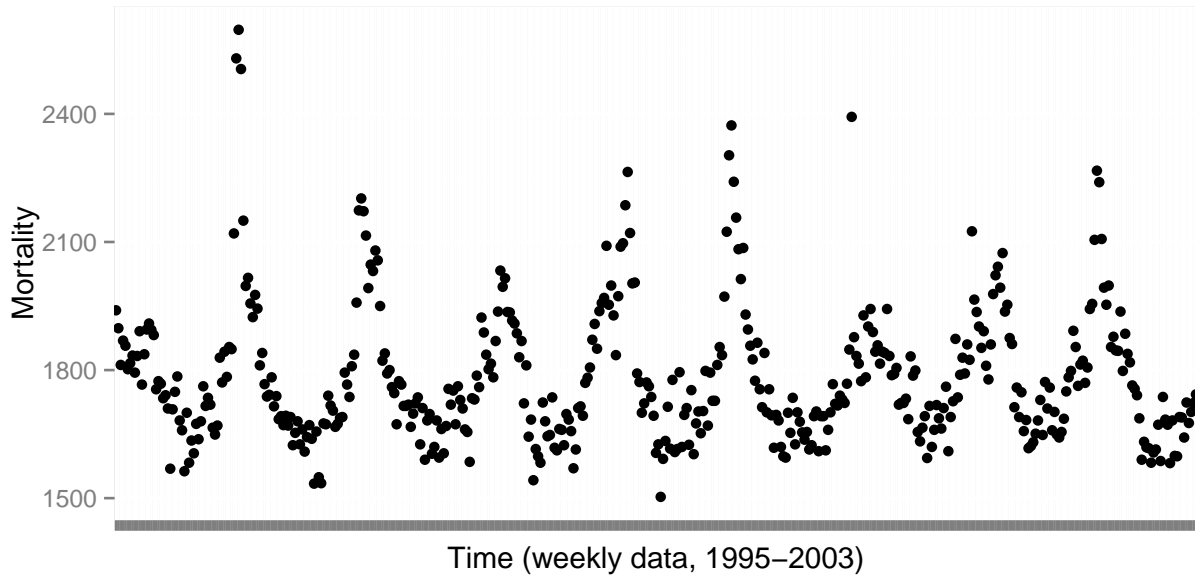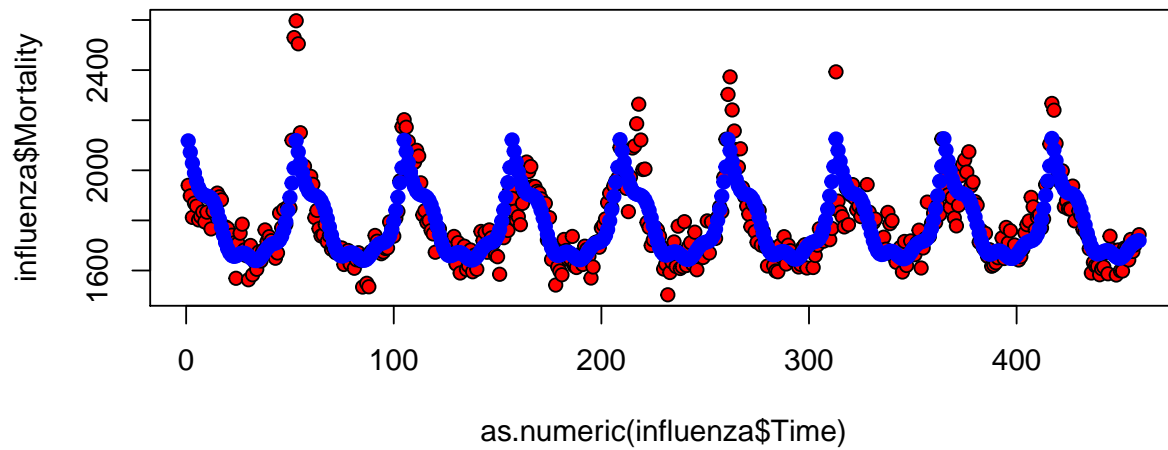## Assignment 1

1.2
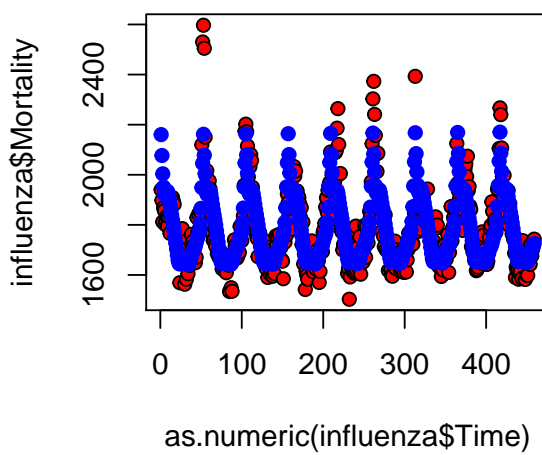
1.2

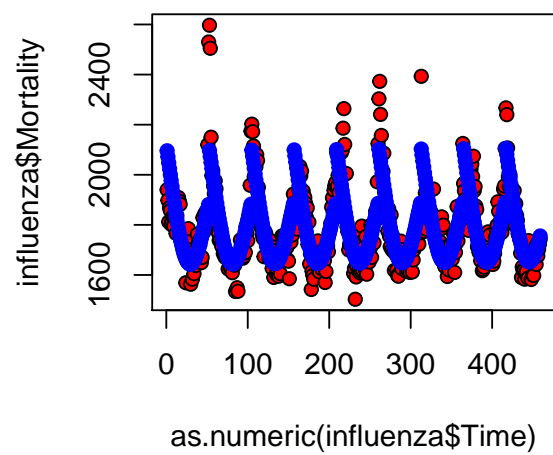# Assignment 2

2.1
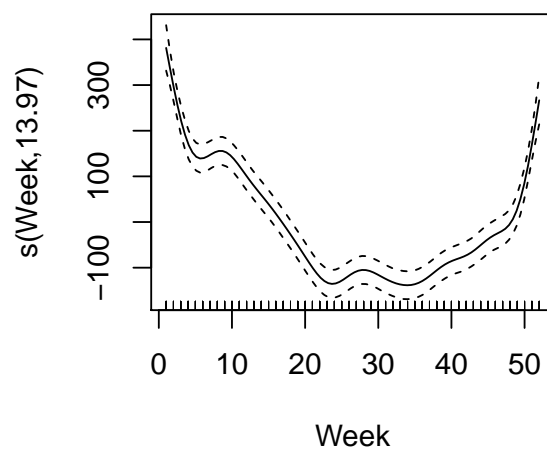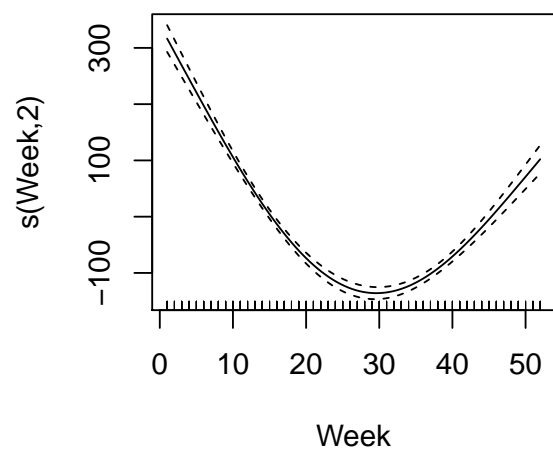
2.2

2.3


```
## 
## Family: gaussian 
## Link function: identity 
## 
## Formula: 
## Mortality ~ Year + s(Week) 
## 
## Parametric coefficients: 
##             Estimate Std. Error t value Pr(>|t|) 
## (Intercept) -652.058   3448.379  -0.189     0.85 
## Year           1.219      1.725   0.706     0.48 
## 
## Approximate significance of smooth terms: 
##           edf Ref.df     F p-value 
## s(Week) 8.587  8.951 100.6  <2e-16 *** 
## --- 
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 
## 
## R-sq.(adj) =  0.661   Deviance explained = 66.8% 
## GCV = 9014.6  Scale est. = 8806.7    n = 459 
```
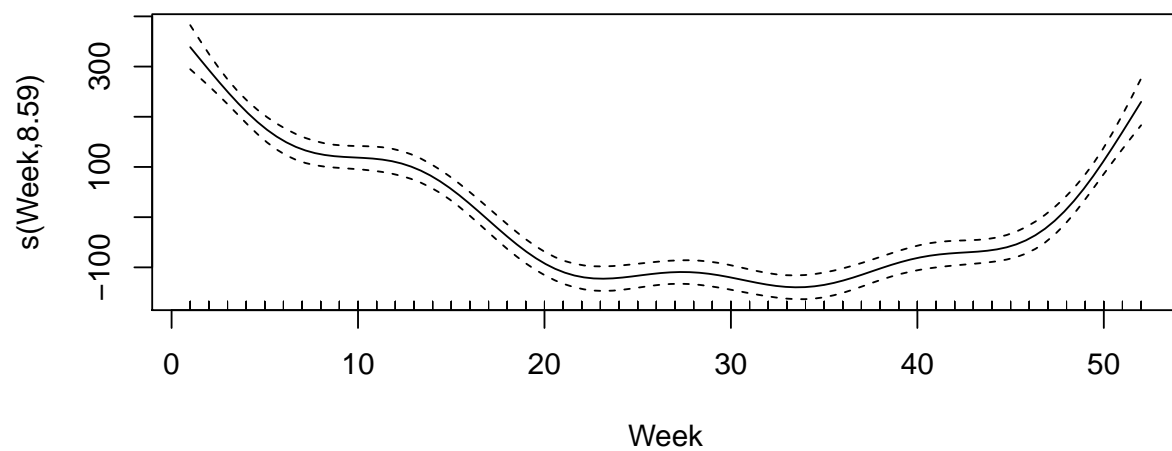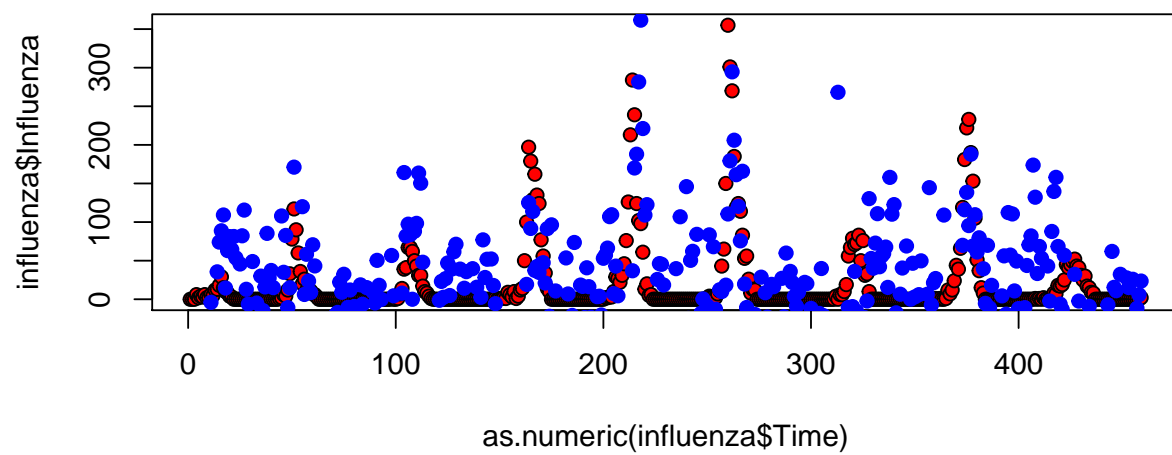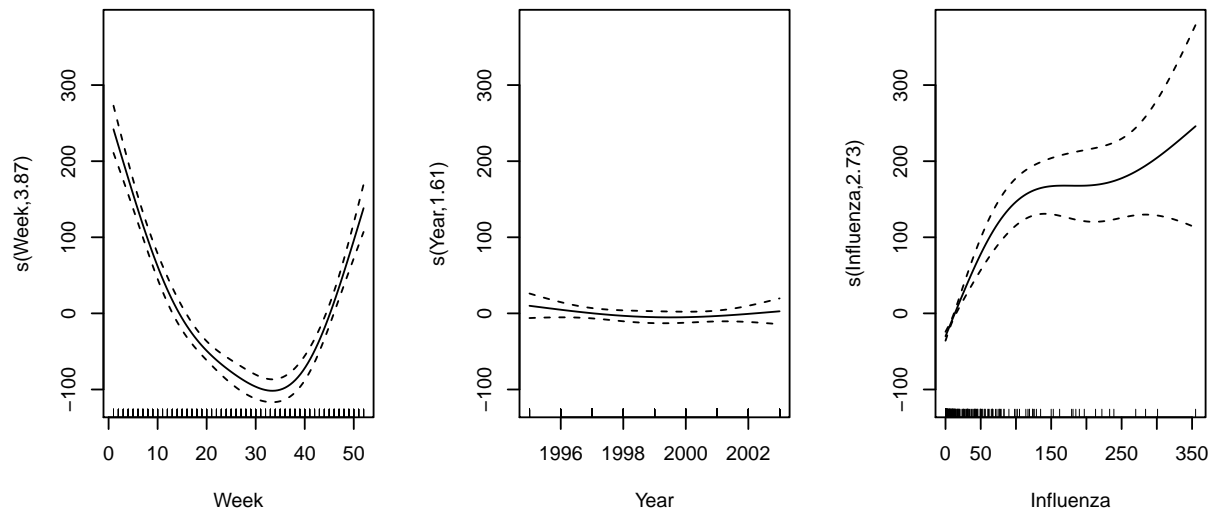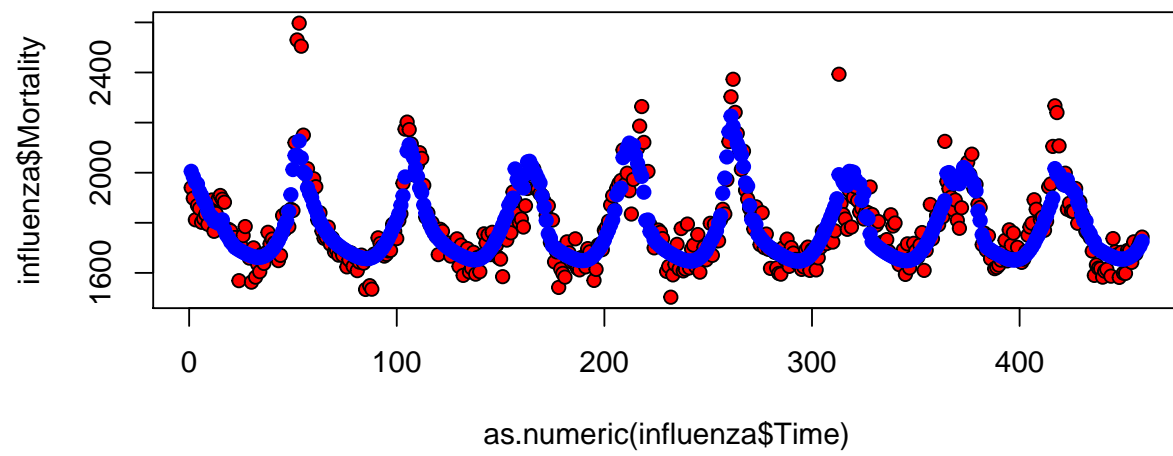
2.4

2.5

2.6


```
## 
## Family: gaussian
## Link function: identity
## 
## Formula:
## Mortality ~ s(Week, k = 5) + s(Year, k = 3) + s(Influenza, k = 4)
## 
## Parametric coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) 1783.765      4.081   437.1   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## Approximate significance of smooth terms:
##                 edf Ref.df      F p-value
## s(Week)       3.867  3.989 95.400  <2e-16 ***
## s(Year)       1.611  1.849  1.129   0.395
## s(Influenza)  2.734  2.946 42.638  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## R-sq.(adj) =  0.706   Deviance explained = 71.1%
## GCV = 7799.5  Scale est. = 7643      n = 459
```

```
## [1] 3437724
```