Lab6

Register Number:19BLC1186

Name:Tarun Sidhu

Lab Exercise No:6

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Dataset:covid_19_data

```
library(ISLR)
covid=read.csv("/Users/tarunsidhu/Desktop/Sem 4/ML/ML(Lab)/Data Sets/covid_19_data
.csv")
names(covid)
```

```
## [1] "SNo"             "ObservationDate" "Province.State"  "Country.Region"
## [5] "Last.Update"     "Confirmed"       "Deaths"          "Recovered"
```

```
set.seed(1)
train=sample(392,196)
lm.fit=lm(SNo~Deaths,data=covid,subset=train)
attach(covid)
mean((SNo-predict(lm.fit,covid))[-train]^2)
```

```
## [1] 13952167580
```

```
lm.fit2=lm(SNo~poly(Deaths,2),data=covid,subset=train)
mean((SNo-predict(lm.fit2,covid))[-train]^2)
```

```
## [1] 1.156228e+13
```

```
lm.fit3=lm(SNo~poly(Deaths,3),data=covid,subset=train)
mean((SNo-predict(lm.fit3,covid))[-train]^2)
```

```
## Warning in predict.lm(lm.fit3, covid): prediction from a rank-deficient fit may
## be misleading
```

```
## [1] 1.156228e+13
```

```
set.seed(2)
train=sample(392,196)
lm.fit=lm(SNo~Deaths,subset=train)
mean((SNo-predict(lm.fit,covid))[-train]^2)
```

```
## [1] 13805978913
```

```
lm.fit2=lm(SNo~poly(Deaths,2),data=covid,subset=train)
mean((SNo-predict(lm.fit2,covid))[-train]^2)
```

```
## [1] 3.382034e+12
```

```
lm.fit3=lm(SNo~poly(Deaths,3),data=covid,subset=train)
mean((SNo-predict(lm.fit3,covid))[-train]^2)
```

```
## Warning in predict.lm(lm.fit3, covid): prediction from a rank-deficient fit may
## be misleading
```

```
## [1] 3.382034e+12
```

```
glm.fit=glm(SNo~Deaths,data=covid)
coef(glm.fit)
```

```
##  (Intercept)       Deaths
## 1.000398e+05 2.325455e+00
```

```
lm.fit=lm(SNo~Deaths,data=covid)
coef(lm.fit)
```

```
##  (Intercept)       Deaths
## 1.000398e+05 2.325455e+00
```