server.R

venkatesh

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```
library(shiny)
library(forecast)
library(fma)
#data(airpass, package="fma")
#DData<-data.frame(Time=seq(1,144),airpass)
shinyServer(function(input,output,session){
  MyData <- reactive({
    if(input$RD1==2){
      inFile<- df1
    }
  })
  Col<-reactive({input$Col})
  Start<-reactive({input$Start})
  End<-reactive({input$End})
  Fre<-reactive({input$freq})
  Hstar<-reactive({input$Starth})
  Hend<-reactive({input$Endh})
  output$summary<-renderPrint({
    summary(MyData()[,Col()])
  })
  output$table<-renderDataTable({
    MyData()
  })
  output$PlotG<-renderPlot({
    if(is.null(MyData())!=T){
      plot(MyData()[,Col()],ylab="Observations")+lines(MyData()[,Col()])
    }
  })
  output$Plot1<-renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    if(input$F2==1){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),level = input$CI)
      plot(forecast1,xlab="Time",ylab="Observations")
      lines(forecast1$fit,col="red",lty=2)
      lines(OutsampleTs,col="green",lty=2)
    }
    if(input$F2==2){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),initial =
"simple",level = input$CI,alpha = input$AlphaS)
      plot(forecast1,xlab="Time",ylab="Observations")
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      lines(forecast1$fit,col="red",lty=2)
      lines(OutsampleTs,col="green",lty=2)
    }
  })
  output$Plot2<-renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))

    if(input$F2==1){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),level = input$CI)

barplot(accuracy(forecast1,OutsampleTs),legend=rownames(accuracy(forecast1,Ou
tsampleTs)),main="Accuracy Test",beside=TRUE, col=c("red","blue"))
    }
    if(input$F2==2){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),initial =
"simple",level = input$CI,alpha = input$AlphaS)

barplot(accuracy(forecast1,OutsampleTs),legend=rownames(accuracy(forecast1,Ou
tsampleTs)),main="Accuracy Test",beside=TRUE, col=c("red","blue"))
    }
  })
  output$accu1 <-renderTable({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))

    if(input$F2==1){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),level = input$CI)
    }
    if(input$F2==2){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),initial =
"simple",level = input$CI,alpha = input$AlphaS)
    }
    data.frame(Item=c('In Sample Error','Out Sample
Error'),accuracy(forecast1,OutsampleTs))


  })

  output$out1 <-renderTable({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))

    if(input$F2==1){
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      forecast1<-ses(InsampleTs,h=length(OutsampleTs),level = input$CI)
      forecast_out1 <- forecast1$lower
    }
    if(input$F2==2){
      forecast1<-ses(InsampleTs,h=length(OutsampleTs),initial =
"simple",level = input$CI,alpha = input$AlphaS)
      forecast_out1 <- forecast1$lower
    }
    (data.frame(Y = as.character(as.matrix(forecast_out1)), date =
as.character(as.Date(forecast_out1))))
  })

  output$Plot3<-renderPlot({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))

    if(input$F4==1){
      forecast<-holt(InsampleTs,h=length(OutsampleTs),level = input$CI1)
      plot(forecast,xlab="Time",ylab="Observations")
      lines(forecast$fit,col="red",lty=2)
      lines(OutsampleTs,col="green",lty=2)
    }
    if(input$F4==2){
      forecast<-holt(InsampleTs,h=length(OutsampleTs),level =
input$CI1,initial = "simple",alpha = input$AlphaL,beta = input$BetaL)
      plot(forecast,xlab="Time",ylab="Observations")
      lines(forecast$fit,col="red",lty=2)
      lines(OutsampleTs,col="green",lty=2)
    }

  })
  output$Plot4<-renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    if(input$F4==1){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level = input$CI1)

barplot(accuracy(forecast2,OutsampleTs),legend=rownames(accuracy(forecast2,Ou
tsampleTs)),main="Accuracy Test",beside=TRUE, col=c("red","blue"))
    }
    if(input$F4==2){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level =
input$CI1,initial = "simple",alpha = input$AlphaL,beta = input$BetaL)

barplot(accuracy(forecast2,OutsampleTs),legend=rownames(accuracy(forecast2,Ou
tsampleTs)),main="Accuracy Test",beside=TRUE, col=c("red","blue"))
```

```
    }
  })



  output$accu2 <- renderTable({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    if(input$F4==1){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level = input$CI1)

    }
    if(input$F4==2){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level =
input$CI1,initial = "simple",alpha = input$AlphaL,beta = input$BetaL)
    }

    data.frame(Item=c('In Sample Error','Out Sample
Error'),accuracy(forecast2,OutsampleTs))



  })


  output$out2 <- renderTable({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    if(input$F4==1){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level = input$CI1)
      forecast_out2 <- forecast2$lower

    }
    if(input$F4==2){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level =
input$CI1,initial = "simple",alpha = input$AlphaL,beta = input$BetaL)
      forecast_out2 <- forecast2$lower
    }
    (data.frame(Y = as.character(as.matrix(forecast_out2)), date =
as.character(as.Date(forecast_out2))))


  })
```

```
  output$Plot5<-renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))

    if(input$F6==1){
      if(input$AM==1){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level = input$CI2)
        print(forecast3$lower)
        plot(forecast3)
        lines(forecast3$fit,col="red",lty=2)
        lines(OutsampleTs,col="green",lty=2)
      }
      if(input$AM==2){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,"multiplicative")
        plot(forecast3)
        lines(forecast3$fit,col="red",lty=2)
        lines(OutsampleTs,col="green",lty=2)
      }
    }
    if(input$F6==2){
      if(input$AM==1){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,initial = "simple",alpha = input$AlphaH,beta = input$BetaH,gamma =
input$GammaH)
        plot(forecast3)
        lines(forecast3$fit,col="red",lty=2)
        lines(OutsampleTs,col="green",lty=2)
      }
      if(input$AM==2){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,"multiplicative",initial = "simple",alpha = input$AlphaH,beta =
input$BetaH,gamma = input$GammaH)
        plot(forecast3)
        lines(forecast3$fit,col="red",lty=2)
        lines(OutsampleTs,col="green",lty=2)
      }
    }

  })

  output$out3 <- renderTable({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    if(input$F4==1){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level = input$CI1)
```

```
      forecast_out3 <- forecast2$lower

    }
    if(input$F4==2){
      forecast2<-holt(InsampleTs,h=length(OutsampleTs),level =
input$CI1,initial = "simple",alpha = input$AlphaL,beta = input$BetaL)

      forecast_out3 <- forecast2$lower
    }

    (data.frame(Y = as.character(as.matrix(forecast_out3)), date =
as.character(as.Date(forecast_out3))))
  })

  output$Plot6<-renderPlot({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))


    if(input$F6==1){
      if(input$AM==1){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level = input$CI2)

barplot(accuracy(forecast3,OutsampleTs),legend=rownames(accuracy(forecast3,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))
      }
      if(input$AM==2){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,"multiplicative")

barplot(accuracy(forecast3,OutsampleTs),legend=rownames(accuracy(forecast3,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))
      }
    }
    if(input$F6==2){
      if(input$AM==1){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,initial = "simple",alpha = input$AlphaH,beta = input$BetaH,gamma =
input$GammaH)

barplot(accuracy(forecast3,OutsampleTs),legend=rownames(accuracy(forecast3,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))
      }
      if(input$AM==2){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,"multiplicative",initial = "simple",alpha = input$AlphaH,beta =
input$BetaH,gamma = input$GammaH)
```

```
barplot(accuracy(forecast3,OutsampleTs),legend=rownames(accuracy(forecast3,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))
      }
    }
  })
  output$accu3 <- renderTable({


    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))


    if(input$F6==1){
      if(input$AM==1){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level = input$CI2)

      }
      if(input$AM==2){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,"multiplicative")
      }
    }
    if(input$F6==2){
      if(input$AM==1){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,initial = "simple",alpha = input$AlphaH,beta = input$BetaH,gamma =
input$GammaH)
      }
      if(input$AM==2){
        forecast3<-hw(InsampleTs,h=length(OutsampleTs),level =
input$CI2,"multiplicative",initial = "simple",alpha = input$AlphaH,beta =
input$BetaH,gamma = input$GammaH)
      }
    }
    data.frame(Item=c('In Sample Error','Out Sample
Error'),accuracy(forecast3,OutsampleTs))

  })


  output$Plot7<-renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    Endpoint<-time(InsampleTs)[length(time(InsampleTs))]
    if(input$Trans==2){
      InsampleTs<-log(InsampleTs)
```

```
    }
    if(input$Trans==3){
      InsampleTs<-InsampleTs^0.5
    }
    x<-time(InsampleTs)
    New<-
data.frame(x=seq(Endpoint,Endpoint+(1/Fre())*length(OutsampleTs),by=1/Fre()))
    reg<-lm(InsampleTs~x)
    pred<-predict(reg,New,interval = "prediction",level=input$CI3)
    if(input$Trans==2){

plot(exp(InsampleTs),xlim=c(Start(),ceiling(Endpoint+(1/Fre())*length(Outsamp
leTs))),ylim=c(floor(min(exp(InsampleTs))),ceiling(exp(max(pred[,3])))))+poin
ts(New$x,exp(pred[,1]),pch=1)
      lines(New$x,exp(pred[,2]),lty=2,col="red")
      lines(New$x,exp(pred[,3]),lty=2,col="red")
      points(x,exp(reg$fitted.values),col="blue")

    }
    if(input$Trans==3){

plot(InsampleTs^2,xlim=c(Start(),ceiling(Endpoint+(1/Fre())*length(OutsampleT
s))),ylim=c(floor(min((InsampleTs)^2)),ceiling(max(pred[,3])^2)))+points(New$
x,(pred[,1])^2,pch=1)
      lines(New$x,(pred[,2])^2,lty=2,col="red")
      lines(New$x,(pred[,3])^2,lty=2,col="red")
      points(x,reg$fitted.values^2,col="blue")
    }
    if(input$Trans==1){

plot(InsampleTs,xlim=c(Start(),ceiling(Endpoint+(1/Fre())*length(OutsampleTs)
)),ylim=c(floor(min(InsampleTs)),ceiling(max(pred[,3]))))+points(New$x,pred[,
1],pch=1)
      lines(New$x,pred[,2],lty=2,col="red")
      lines(New$x,pred[,3],lty=2,col="red")
      abline(reg$coefficients,col="blue")
    }
  })
  output$plot8<-renderPlot({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    Endpoint<-time(InsampleTs)[length(time(InsampleTs))]
    if(input$Trans==2){
      InsampleTs<-log(InsampleTs)
    }
    if(input$Trans==3){
      InsampleTs<-InsampleTs^0.5
    }
```

```
    x<-time(InsampleTs)
    New<-
data.frame(x=seq(Endpoint,Endpoint+(1/Fre())*length(OutsampleTs),by=1/Fre()))
    reg<-lm(InsampleTs~x)
    pred<-predict(reg,New,interval = "prediction",level=input$CI3)
    if(input$Trans==2){
      FR<-exp(pred[,1])
      barplot(accuracy(FR,OutsampleTs),main="Outsample Accuracy of
Forecasting")
    }
    if(input$Trans==3){
      FR<-pred[,1]^2
      barplot(accuracy(FR,OutsampleTs),main="Outsample Accuracy of
Forecasting")
    }
    if(input$Trans==1){
      FR<-pred[,1]
      barplot(accuracy(FR,OutsampleTs),main="Outsample Accuracy of
Forecasting")
    }
  })
  output$accu4 <- renderTable({



    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    Endpoint<-time(InsampleTs)[length(time(InsampleTs))]
    if(input$Trans==2){
      InsampleTs<-log(InsampleTs)
    }
    if(input$Trans==3){
      InsampleTs<-InsampleTs^0.5
    }
    x<-time(InsampleTs)
    New<-
data.frame(x=seq(Endpoint,Endpoint+(1/Fre())*length(OutsampleTs),by=1/Fre()))
    reg<-lm(InsampleTs~x)
    pred<-predict(reg,New,interval = "prediction",level=input$CI3)
    if(input$Trans==2){
      FR<-exp(pred[,1])

    }
    if(input$Trans==3){
      FR<-pred[,1]^2

    }
    if(input$Trans==1){
```

```
      FR<-pred[,1]

    }
    data.frame(Item=c('Out Sample Error'),accuracy(FR,OutsampleTs))

  })


  output$out4 <- renderTable({



    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    Endpoint<-time(InsampleTs)[length(time(InsampleTs))]
    if(input$Trans==2){
      InsampleTs<-log(InsampleTs)
    }
    if(input$Trans==3){
      InsampleTs<-InsampleTs^0.5
    }
    x<-time(InsampleTs)
    New<-
data.frame(x=seq(Endpoint,Endpoint+(1/Fre())*length(OutsampleTs),by=1/Fre()))
    reg<-lm(InsampleTs~x)
    pred<-predict(reg,New,interval = "prediction",level=input$CI3)
    if(input$Trans==2){
      FR<-exp(pred[,1])
      print(FR$lower)

    }
    if(input$Trans==3){
      FR<-pred[,1]^2
      print(FR)
    }
    if(input$Trans==1){
      FR<-pred[,1]
      print(FR)
    }
    data.frame(Predictions = as.character(FR))


  })


  output$accu6 <- renderTable({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
```

```
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast6<-forecast(auto.arima(InsampleTs),level =
input$CI5,h=length(OutsampleTs))
    data.frame(Item=c('In Sample Error','Out Sample
Error'),accuracy(forecast6,OutsampleTs))
  })

  # output$Plot9<-renderPlot({
  #   TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
  #   InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-
1),Fre()))
  #   OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
  #   forecast5<-forecast(nnetar(InsampleTs,level =
input$CI4,h=length(OutsampleTs)))
  #   plot(forecast5)
  #   lines(forecast5$fit,col="red",lty=2)
  #   lines(OutsampleTs,col="green",lty=2)
  #
  # })
  # output$Plot10<-renderPlot({
  #   TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
  #   InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-
1),Fre()))
  #   OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
  #   forecast5<-forecast(nnetar(InsampleTs,level =
input$CI4,h=length(OutsampleTs)))
  #
barplot(accuracy(forecast5,OutsampleTs),legend=rownames(accuracy(forecast5,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))
  #
  # })
  # output$accu5 <- renderTable({
  #   TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
  #   InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-
1),Fre()))
  #   OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
  #   forecast5<-forecast(nnetar(InsampleTs,level =
input$CI4,h=length(OutsampleTs)))
  #   data.frame(Item=c('In Sample Error','Out Sample
Error'),accuracy(forecast5,OutsampleTs))
  # })

  output$Plot11<- renderPlot({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast6<-auto.arima(InsampleTs)
    plot(forecast(forecast6,level = input$CI5,h=length(OutsampleTs)))
    lines(fitted(forecast6),col="red",lty=2)
```

```
    lines(OutsampleTs,col="green",lty=2)


  })
  output$Plot12 <- renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast6<-forecast(auto.arima(InsampleTs),level =
input$CI5,h=length(OutsampleTs))

barplot(accuracy(forecast6,OutsampleTs),legend=rownames(accuracy(forecast6,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))


  })


  output$out6 <- renderTable({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast6<-forecast(auto.arima(InsampleTs),level =
input$CI5,h=length(OutsampleTs))
    forecast_out6 <- forecast6$lower
    (data.frame(Y = as.character(as.matrix(forecast_out6)), date =
as.character(as.Date(forecast_out6))))
  })

  ###

  output$Plot0<- renderPlot({

    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast0<-naive(InsampleTs,h=length(OutsampleTs))
    plot(forecast(forecast0,h=length(OutsampleTs)))
    lines(forecast0$fit,col="red",lty=2)
    lines(OutsampleTs,col="green",lty=2)


  })
  output$Plot00 <- renderPlot({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast0<-naive(InsampleTs,h=length(OutsampleTs))
```

```
barplot(accuracy(forecast0,OutsampleTs),legend=rownames(accuracy(forecast0,Ou
tsampleTs)),main="Accuracy",beside=TRUE, col=c("red","blue"))



  })
  output$accu0 <- renderTable({
    TotalTS<-ts(MyData()[,Col()],start=Start(),frequency = Fre())
    InsampleTs<-window(TotalTS,start = c(Start(),1),end=c((Hstar()-1),Fre()))
    OutsampleTs<-window(TotalTS,start=c(Hstar(),1),end = c(Hend(),Fre()))
    forecast0<-naive(InsampleTs,h=length(OutsampleTs))
    data.frame(Item=c('In Sample Error','Out Sample
Error'),accuracy(forecast0,OutsampleTs))
  })



})
```