**Part 1**

for(i in (1:20)){

if(i<10){

filename <- paste("F:/acadgild/project/iris\_dat/iris/00",i,".dat",sep="")

}else{

filename <- paste("F:/acadgild/project/iris\_dat/iris/0",i,".dat",sep="")

}

data1 <- readLines(filename,9)

data2<-read.delim(file=filename,header=FALSE,skip=9,na.strings="<null>",sep=",")

names1<-str\_match\_all(sub("inputs","",data1[7]),"[a-zA-Z0-9]+")

names(data2)<-c(names1[[1]],"Species")

if(i==1){

iris1<-data2;

}

iris1<-rbind(iris1,data2)

}

**Part 2**

install.packages("xml2")

install.packages("xml")

library(xml2)

require(xml)

filename <- "F:/acadgild/project/iris\_dat/iris.xml";

data1 <- read\_xml(filename)

SepalLength <- data1 %>% xml\_find\_all(".//Sepal.Length") %>% xml\_double()

SepalWidth <- data1 %>% xml\_find\_all(".//Sepal.Width") %>% xml\_double()

PetalLength <- data1 %>% xml\_find\_all(".//Petal.Length") %>% xml\_double()

PetalWidth <- data1 %>% xml\_find\_all(".//Petal.Width") %>% xml\_double()

Species <- data1 %>% xml\_find\_all(".//Species") %>% xml\_text(trim=TRUE)

df<-data.frame(SepalLength,SepalWidth,PetalLength,PetalWidth,Species)

**Part 3**

json\_rows<-jsonlite::toJSON(iris1,dataframe=c("rows"))

json\_columns<-jsonlite::toJSON(iris1,dataframe=c("columns"))

json\_values<-jsonlite::toJSON(iris1,dataframe=c("values"))

iris\_data<- jsonlite::fromJSON(json\_rows,simplifyDataFrame = TRUE)

**Part 4**

iris\_data %>% select(contains("Length"),Species) %>% mutate(total=SepalLength+PetalLength) %>% group\_by(Species)%>% summarise(s=sum(total,na.rm=TRUE))%>% arrange(desc(s))%>%filter(s>3000,Species=="Iris-virginica")

**Part 5**

summary(iris\_data)

SepalLength SepalWidth PetalLength PetalWidth Species

Min. :4.300 Min. :2.000 Min. :1.000 Min. :0.100 Length:1635

1st Qu.:5.100 1st Qu.:2.800 1st Qu.:1.500 1st Qu.:0.300 Class :character

Median :5.800 Median :3.000 Median :4.300 Median :1.300 Mode :character

Mean :5.854 Mean :3.058 Mean :3.721 Mean :1.201

3rd Qu.:6.400 3rd Qu.:3.300 3rd Qu.:5.100 3rd Qu.:1.800

Max. :7.900 Max. :4.400 Max. :6.900 Max. :2.500

NA's :154 NA's :121 NA's :209 NA's :110