```
> vius$ones<-1
> ##QUESTION 34.

> ## PROBLEM A). Total number of trucks
>
>
>
> svytruck<-svydesign(id=~1,  data=vius, strata=~STRATUM, weights = ~TABTRUCKS)
>
> svytruck
Stratified Independent Sampling design (with replacement)
svydesign(id = ~1, data = vius, strata = ~STRATUM, weights = ~TABTRUCKS)
>
>
>
> svytotal(~ones,svytruck)
       total SE
ones 85174776  0
>
> confint(svytotal(~ones,svytruck),df=degf(svytruck))
       2.5 %   97.5 %
ones 85174776 85174776
>



> ##PROBLEM B). Total number of truck miles driven in 2002
>
> svytotal(~MILES_ANNL,svytruck)
                 total          SE
MILES_ANNL 1.1147e+12     6492344384
>
> confint(svytotal(~MILES_ANNL,svytruck),df=degf(svytruck))
                   2.5 %       97.5 %
MILES_ANNL 1.102003e+12      1.127453e+12



> ###############################################################################################
> #PROBLEM C)
> ##Number of truck miles driven in each of the five trucktype classes
>
> c1<-svydesign(id=~1,  data=vius[vius$TRUCKTYPE==1,], strata=~STRATUM, weights = ~TABTRUCKS)
>
> svytotal(~MILES_ANNL,c1)
                 total          SE
MILES_ANNL 4.2829e+11 4708839922
>
> confint(svytotal(~MILES_ANNL,c1),df=degf(c1))
                   2.5 %       97.5 %
MILES_ANNL 419064382590 437524621573
>
>
>
> c2<-svydesign(id=~1,  data=vius[vius$TRUCKTYPE==2,], strata=~STRATUM, weights = ~TABTRUCKS)
>
> svytotal(~MILES_ANNL,c2)
                total        SE
MILES_ANNL 5.411e+11 4.408e+09
>
> confint(svytotal(~MILES_ANNL,c2),df=degf(c2))
                   2.5 %       97.5 %
MILES_ANNL 532459369198 54974033258
```

```
> c3<-svydesign(id=~1,  data=vius[vius$TRUCKTYPE==3,], strata=~STRATUM, weights = ~TABTRUCKS)
>
> svytotal(~MILES_ANNL,c3)
                total        SE
MILES_ANNL 4.1279e+10 395841910
>
> confint(svytotal(~MILES_ANNL,c3),df=degf(c3))
                2.5 %       97.5 %
MILES_ANNL 40503212994 42054955985
>
>
> c4<-svydesign(id=~1,  data=vius[vius$TRUCKTYPE==4,], strata=~STRATUM, weights = ~TABTRUCKS)
>
> svytotal(~MILES_ANNL,c4)
                total        SE
MILES_ANNL 3.1753e+10 348294378
>
> confint(svytotal(~MILES_ANNL,c4),df=degf(c4))
                2.5 %       97.5 %
MILES_ANNL 31069981309 32435330964
>
>
> c5<-svydesign(id=~1,  data=vius[vius$TRUCKTYPE==5,], strata=~STRATUM, weights = ~TABTRUCKS)
>
> svytotal(~MILES_ANNL,c5)
                total        SE
MILES_ANNL 7.2302e+10 518195242
>
> confint(svytotal(~MILES_ANNL,c5),df=degf(c5))
                2.5 %       97.5 %
MILES_ANNL 71286088245 73317491440



> #PROBLEM C)
> # The average miles per gallon (MPG) for the trucks in the population
> svymean(~MILES_ANNL,svytruck)
             mean     SE
MILES_ANNL 13088    76.224


 > confint(svymean(~MILES_ANNL,svytruck))
               2.5 %   97.5 %
 MILES_ANNL 12938.14 13236.93
```