

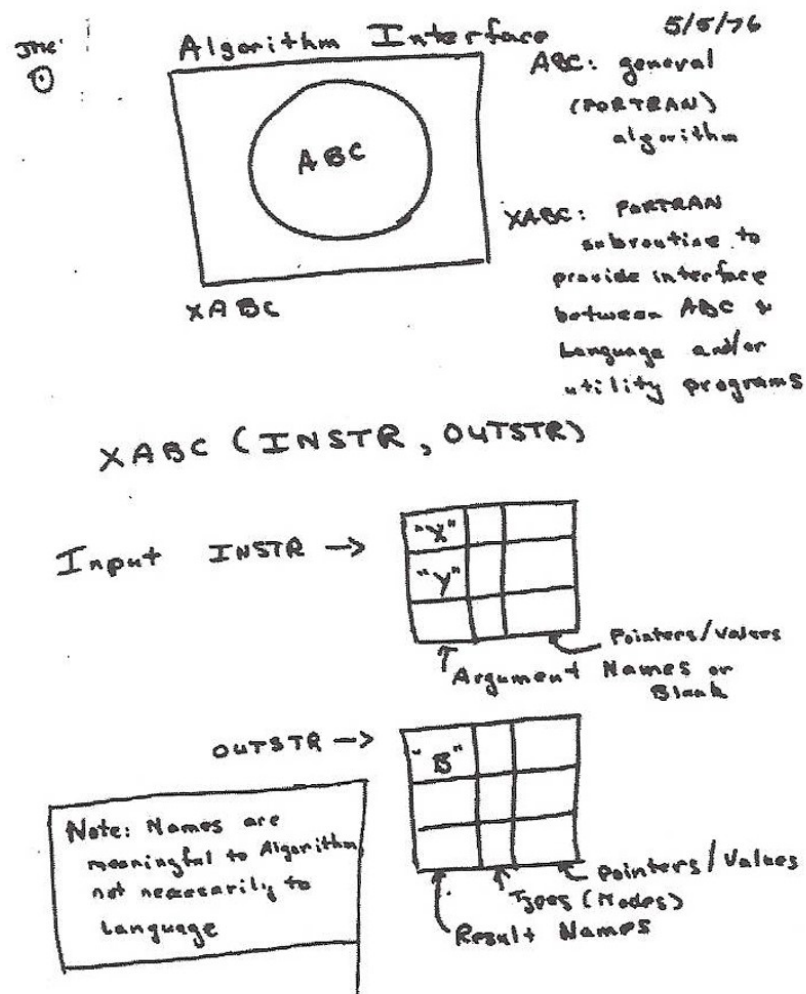
Fun activity for Thursday!

People in the US celebrate the birthday of when John Chambers began the language S, which has had popular implementations including R. According to Chambers, their aims included:

our Mission, as users and creators of software for data analysis, is to enable the best and most thorough exploration of data possible. (p. 1)
to find new paths to understand the data and the underlying processes. The mission is, indeed, to boldly go where no one has gone before. (p. 3)
The prime directive ... is not to distort the message of the data, and to provide computations whose content can be trusted and understood. (p. 4)

Chambers (2008)

Here is a diagram from Chambers' book (p. 476) describing the first designs for the language. See the birth date in the upper-right corner. The number #1 US song was *Welcome Back*, the theme to *Welcome Back, Kotter*. You should use this information wisely, but cautiously.



Ever have that idea that a spectre is watching over you? Many people also celebrate the birthdate of Karl Marx, arguably the most important social scientist thus far.



In addition, on May 5th in 1862 Mexico defeated the larger French army in the Battle of Puebla, and this also is celebrated.

The question is: what is the overlap among people who believe, for example, “Free education for all children in public schools. Abolition of children’s factory labour in its present form,” those who wish to do “the best and most thorough exploration of data possible,” and those who celebrate France losing that battle. And what are the characteristics of these people. That S, Marx, and a battle between Mexico and France share a birthday, it allows us to observe these people, out and about, on this date. According to Einstein (2025), “communists who seek a peaceful collision of computing and data analysis, and like Mexico more than France, like tequila” thus allowing a testable hypothesis of whether more tequila is drunk on this date in Las Vegas than other days. Given that the *Communist Manifesto* was written in a pub, this would provide scientific proof of Einstein’s work, and suggests participant observation is a valid method to address this scientific question.

Who drinks tequila on May 5th?

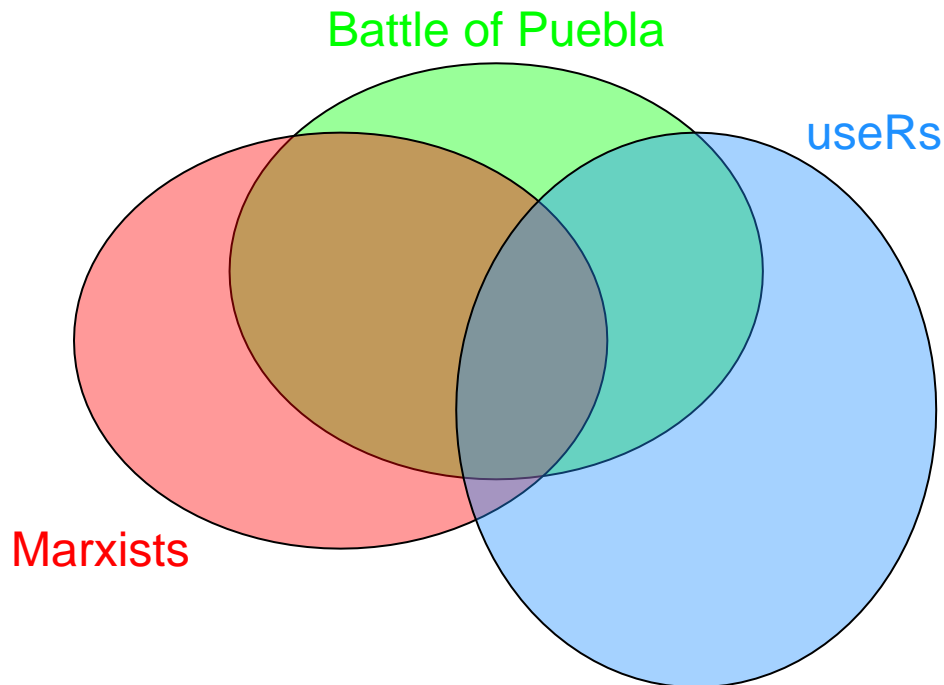


Figure 1: Venn diagram of Marxists, useRs, and those commemorating Mexico's victory over France in 1862.

```
#I'll present the code in case you want to re-use
#install if necessary
#install.packages("DescTools")
library(DescTools)
par(mar=c(0,0,3,0))
plot.new()
DrawEllipse(.525,.6,radius.x=.3,radius.y=.3,col=SetAlpha("green",.4))
DrawEllipse(.35,.5,radius.x=.3,radius.y=.3,col=SetAlpha("red",.4))
DrawEllipse(.75,.4,radius.x=.27,radius.y=.4,col=SetAlpha("Dodgerblue",.4))
text(.08,.2,"Marxists",col="red",cex=1.5)
text(.95,.8,"useRs",col="Dodgerblue",cex=1.5)
text(.525,.95,"Battle of Puebla",col="green",cex=1.5)
mtext("Who drinks tequila on May 5th?",cex=1.5,col="purple")
```

With Venn diagrams it is often useful to fill in characteristics of each group. Let \cup be the union of sets and \cap be their intersection, and \neg be their negation. You can use this notation to describe whatever characteristics while you are doing your research Thursday night. The white area ($\neg(\text{Marx} \cup \text{useRs} \cup \text{Puebla})$) would be this set) within this plot are those who are celebrating none of these three (but are still out this night).

References

Chambers, J. M. (2008). *Software for data analysis: Analysis with R*. New York, NY: Springer.