user\_file <- GET file containing a list of names

READ user\_file as json\_user\_file

words <- load(json\_user\_file)

search\_word <- GET word

start\_index <- 0

end\_index <- words.length()

WHILE start\_index is not = end\_index

middle\_index <- (start\_index + end\_index) / 2

IF search\_word < middle\_index

end\_index <- middle\_index – 1

ELSE

start\_index <- middle\_index + 1

IF search\_word = words[middle\_index]

PUT word found

ELSE

PUT word not found