

Untitled

```
library(jsonlite)
```

```
courseURL = "http://www.sfu.ca/bin/wcm/course-outlines?2017/spring/stat/100/d100"  
course_info = fromJSON(courseURL)  
class(course_info)
```

```
## [1] "list"
```

```
attributes(course_info)
```

```
## $names  
## [1] "info"          "instructor"      "courseSchedule" "examSchedule"  
## [5] "grades"        "requiredText"
```

```
course_info_json = toJSON(course_info,pretty = TRUE)  
class(course_info_json)
```

```
## [1] "json"
```

```
length(course_info)
```

```
## [1] 6
```

```
names(course_info)
```

```
## [1] "info"          "instructor"      "courseSchedule" "examSchedule"  
## [5] "grades"        "requiredText"
```

```
lapply(course_info,class) #very useful tool to check internal info
```

```
## $info
## [1] "list"
##
## $instructor
## [1] "data.frame"
##
## $courseSchedule
## [1] "data.frame"
##
## $examSchedule
## [1] "data.frame"
##
## $grades
## [1] "data.frame"
##
## $requiredText
## [1] "data.frame"
```

```
course_info$courseSchedule
```

```
##   startTime                startDate roomNumber days
## 1    14:30 Wed Jan 04 00:00:00 PST 2017      9001  Mo
## 2    14:30 Wed Jan 04 00:00:00 PST 2017      9001  Tu
##                                     endDate sectionCode endTime isExam buildingCode
## 1 Fri Apr 07 00:00:00 PDT 2017      LEC    16:20  FALSE      SSCC
## 2 Fri Apr 07 00:00:00 PDT 2017      LEC    15:20  FALSE      SSCC
##   campus
## 1 Burnaby
## 2 Burnaby
```

```
#instructor
instructor = course_info$instructor$name
#course number
course_number = course_info$info$name
#course title
course_title = course_info$info$title
#trying to get several course time and location
course_day = paste(course_info$courseSchedule$days,collapse = " ")
course_day
```

```
## [1] "Mo Tu"
```

```

course_time_location = course_info$courseSchedule
course_time1 = paste(course_time_location[1,1],seq="_",course_time_location[1,7])
course_time2 = paste(course_time_location[2,1],seq="_",course_time_location[2,7])
course_time = paste(course_time1,course_time2,collapse = " ")
course_room = paste(course_time_location[1,9],course_time_location[1,3],course_time_lo
cation[1,10],collapse = " ")
course.time.location = paste(course_day,course_time,course_room,collapse = " ")
course.time.location

```

```
## [1] "Mo Tu 14:30 _ 16:20 14:30 _ 15:20 SSCC 9001 Burnaby"
```

#textbook

```
textbook = gsub("<[^\>]+>)|(ISBN.*)|(Required Textbook:)", "", course_info$requiredTex
t)

```

#making a data frame

```

course.info = data.frame(number = course_number,title = course_title, instructor= inst
ructor,location = course.time.location,textbook = textbook)

```

```

#trying the make a for loop for web scraping
urlpart1 = "http://www.sfu.ca/bin/wcm/course-outlines?2017/spring/stat"
coursenames = c("/101/c100", "/201/d900", "/203/d100", "/270/d100", "/270/d900")
for (course in coursenames) {
  url = paste(urlpart1, course, sep = "")
  course_info = fromJSON(url)
  #instructor
instructor = course_info$instructor$name
#course number
course_number = course_info$info$name
#course title
course_title = course_info$info$title
#trying to get several course time and location
course_day = paste(course_info$courseSchedule$days, collapse = " ")
course_day
course_time_location = course_info$courseSchedule
course_time1 = paste(course_time_location[1,1], seq="_", course_time_location[1,7])
course_time2 = paste(course_time_location[2,1], seq="_", course_time_location[2,7])
course_time = paste(course_time1, course_time2, collapse = " ")
course_room = paste(course_time_location[1,9], course_time_location[1,3], course_time_lo
cation[1,10], collapse = " ")
course.time.location = paste(course_day, course_time, course_room, collapse = " ")
course.time.location
#textbook
textbook = gsub("<[^<>]+>)|(ISBN.*)|(Required Textbook:)", "", course_info$requiredTex
t)
#making a data frame
course.info = rbind(course.info, data.frame(number = course_number, title = course_titl
e, instructor= instructor, location = course.time.location, textbook = textbook))
}
print(course.info)

```

```

##          number                                title
## 1 STAT 100 D100                                Chance and Data Analysis
## 2 STAT 101 C100                                Introduction to Statistics
## 3 STAT 101 C100                                Introduction to Statistics
## 4 STAT 201 D900                                Statistics for the Life Sciences
## 5 STAT 203 D100 Introduction to Statistics for the Social Sciences
## 6 STAT 270 D100                                Introduction to Probability and Statistics
## 7 STAT 270 D100                                Introduction to Probability and Statistics
## 8 STAT 270 D900                                Introduction to Probability and Statistics
## 9 STAT 270 D900                                Introduction to Probability and Statistics
##
##          instructor
## 1
## 2                                Gamage Perera
## 3                                Tim Swartz
## 4                                Tim Swartz
## 5                                Jack Davis
## 6                                Jack Davis
## 6 Wickrama Arachchige Nimalasiri Wickremasinghe
## 7 Wickrama Arachchige Nimalasiri Wickremasinghe
## 8                                Tim Swartz
## 9                                Tim Swartz
##
##          location
## 1                                Mo Tu 14:30 _ 16:20 14:30 _ 15:20 SSCC 9001 Burnaby
## 2 Wed Jan 04 00:00:00 PST 2017 _ NA _ Fri Apr 07 00:00:00 PDT 2017
## 3 Wed Jan 04 00:00:00 PST 2017 _ NA _ Fri Apr 07 00:00:00 PDT 2017
## 4                                Tu Th 13:30 _ 14:20 12:30 _ 14:20 SUR 5280 Surrey
## 5                                Mo We 10:30 _ 12:20 10:30 _ 11:20 WMC 3520 Burnaby
## 6                                Mo, We, Fr 9:30 _ 10:20 NA _ NA SSCC 9002 Burnaby
## 7                                Mo, We, Fr 9:30 _ 10:20 NA _ NA SSCC 9002 Burnaby
## 8                                Tu Th 8:30 _ 10:20 8:30 _ 9:20 SUR 2740 Surrey
## 9                                Tu Th 8:30 _ 10:20 8:30 _ 9:20 SUR 2740 Surrey
#
#
##
##          textbook
##
1
                                Statistics: Concepts and Controve
rsies (9th ed.), by David S. Moore and William I. Notz. Publisher: W.H. Freeman
##
2
                                The Basic Practice of Statistics (2015), Moore et al.
##
3

```

9781319019334

4 The Basic Practice of Statistics (7th ed.), by D. S. Moore, W. I. Notz, M. A. Fligner. Publisher: W.H. Freeman The textbook package is available at the SFU Bookstore. You do not need to purchase the Statistics Portal Edition or add ons. Alternately, students may purchase the online text at the Freeman website: <http://www.bfwpub.com/>

5 The Basic Practice of Statistics (7th ed.), by D. S. Moore, W. I. Notz, M. A. Fligner. Publisher: W.H. Freeman The textbook package is available at the SFU Bookstore. Alternately, student may purchase the online text and resources (StatsPortal) at the Freeman website: <http://www.bfwpub.com/>

##

6

Introdu

ction to Probability and Statistics, 2nd ed. by Tim Swartz. Publisher: Pearson.

##

7

978-1-269-73721-0

##

8

Introdu

ction to Probability and Statistics, 2nd ed. by Tim Swartz. Publisher: Pearson.

##

9

978-1-269-73721-0