## lab\_exercise#1\_Olivo

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## SCRAPING FOR NOTEBOOKS

```
#install.packages("dplyr")
#install.packages("rvest")
#install.packages("polite")
#install.packages("httr")
library(dplyr)
##
## Attaching package: 'dplyr'
## The following objects are masked from 'package:stats':
##
       filter, lag
## The following objects are masked from 'package:base':
       intersect, setdiff, setequal, union
##
library(rvest)
library(polite)
library(httr)
notebook_products <- data.frame()</pre>
notebooklink1 = "https://www.amazon.co.uk/s?k=notebook&crid=3PE2BSTUHI0D6&qid=1707353799&sprefix=notebo
session1 <- bow(notebooklink1,</pre>
           user_agent = "For Educational Purpose")
scrapeNodes <- function(selector){</pre>
scrape(session1) %>%
  html_nodes(selector) %>%
  html_text(trim = TRUE)
scrapedCategory <- "Notebook"</pre>
scrapedName <- scrapeNodes("h2.a-size-mini.a-spacing-none.a-color-base.s-line-clamp-4")</pre>
scrapedName <- scrapedName[1:45]</pre>
scrapedPrice <- scrapeNodes("span.a-offscreen")</pre>
scrapedPrice <- scrapedPrice[1:45]</pre>
```

```
scrapedRatings <- scrapeNodes("span.a-icon-alt")</pre>
scrapedRatings <- scrapedRatings[1:45]</pre>
scrapedReviews <- scrapeNodes("span.a-size-base.s-underline-text")</pre>
scrapedReviews <- scrapedReviews[1:45]</pre>
notebook_products <- rbind(notebook_products, data.frame(category = scrapedCategory,name = scrapedName,
                     price = scrapedPrice,
                     ratings = scrapedRatings,
                     no_of_reviews = scrapedReviews))
##################
notebooklink2 = "https://www.amazon.co.uk/s?k=notebook&page=2&crid=3PE2BSTUHIOD6&qid=1707353804&sprefix
session2 <- bow(notebooklink2,</pre>
           user_agent = "For Educational Purpose")
scrapedCategory2 <- "Notebook"</pre>
scrapedName2 <- scrapeNodes("h2.a-size-mini.a-spacing-none.a-color-base.s-line-clamp-4")</pre>
scrapedName2 <- scrapedName2[1:45]</pre>
scrapedPrice2 <- scrapeNodes("span.a-offscreen")</pre>
scrapedPrice2 <- scrapedPrice2[1:45]</pre>
scrapedRatings2 <- scrapeNodes("span.a-icon-alt")</pre>
scrapedRatings2 <- scrapedRatings2[1:45]</pre>
scrapedReviews2 <- scrapeNodes("span.a-size-base.s-underline-text")</pre>
scrapedReviews2 <- scrapedReviews2[1:45]</pre>
notebook_products <- rbind(notebook_products, data.frame(category = scrapedCategory,name = scrapedName,
                     price = scrapedPrice,
                     ratings = scrapedRatings,
                     no_of_reviews = scrapedReviews))
#################
notebooklink3 = "https://www.amazon.co.uk/s?k=notebook&page=3&crid=3PE2BSTUHIOD6&qid=1707354306&sprefix
session3 <- bow(notebooklink3,</pre>
           user_agent = "For Educational Purpose")
scrapedCategory3 <- "Notebook"</pre>
scrapedName3 <- scrapeNodes("h2.a-size-mini.a-spacing-none.a-color-base.s-line-clamp-4")</pre>
scrapedName3 <- scrapedName3[1:45]</pre>
```

## SCRAPING FOR PENCILS

```
library(dplyr)
library(rvest)
library(polite)
library(httr)
pencil_products <- data.frame()</pre>
pencillink1 = "https://www.amazon.co.uk/s?k=pencil&crid=R0FYFPYBSIDI&qid=1707354893&sprefix=penic1%2Cap
session4 <- bow(pencillink1,</pre>
           user_agent = "For Educational Purpose")
scrapeNodes <- function(selector){</pre>
scrape(session4) %>%
 html_nodes(selector) %>%
 html_text(trim = TRUE)
scrapedCategory4 <- "Pencil"</pre>
scrapedpencilName <- scrapeNodes("h2.a-size-mini.a-spacing-none.a-color-base.s-line-clamp-4")</pre>
scrapedpencilName <- scrapedpencilName[1:45]</pre>
scrapedpencilPrice <- scrapeNodes("span.a-offscreen")</pre>
scrapedpencilPrice <- scrapedpencilPrice[1:45]</pre>
scrapedpencilRatings <- scrapeNodes("span.a-icon-alt")</pre>
scrapedpencilRatings <- scrapedpencilRatings[1:45]</pre>
```

```
scrapedpencilReviews <- scrapeNodes("span.a-size-base.s-underline-text")</pre>
scrapedpencilReviews <- scrapedpencilReviews[1:45]</pre>
pencil_products <- rbind(pencil_products, data.frame(category = scrapedCategory4,name = scrapedpencilNa</pre>
                     price = scrapedpencilPrice,
                     ratings = scrapedpencilRatings,
                     no_of_reviews = scrapedpencilReviews))
##################
pencillink2 = "https://www.amazon.co.uk/s?k=pencil&page=2&crid=R0FYFPYBSIDI&qid=1707354898&sprefix=peni
session5 <- bow(pencillink2,</pre>
           user_agent = "For Educational Purpose")
scrapeNodes <- function(selector){</pre>
scrape(session5) %>%
 html_nodes(selector) %>%
 html text(trim = TRUE)
}
scrapedCategory5 <- "Pencil"</pre>
scrapedpencilName2 <- scrapeNodes("h2.a-size-mini.a-spacing-none.a-color-base.s-line-clamp-4")</pre>
scrapedpencilName2 <- scrapedpencilName2[1:45]</pre>
scrapedpencilPrice2 <- scrapeNodes("span.a-offscreen")</pre>
scrapedpencilPrice2 <- scrapedpencilPrice2[1:45]</pre>
scrapedpencilRatings2 <- scrapeNodes("span.a-icon-alt")</pre>
scrapedpencilRatings2 <- scrapedpencilRatings2[1:45]</pre>
scrapedpencilReviews2 <- scrapeNodes("span.a-size-base.s-underline-text")</pre>
scrapedpencilReviews2 <- scrapedpencilReviews2[1:45]</pre>
pencil_products <- rbind(pencil_products, data.frame(category = scrapedCategory5,name = scrapedpencilNa</pre>
                     price = scrapedpencilPrice2,
                     ratings = scrapedpencilRatings2,
                     no_of_reviews = scrapedpencilReviews2))
##################
pencillink3 = "https://www.amazon.co.uk/s?k=pencil&page=3&crid=R0FYFPYBSIDI&qid=1707355113&sprefix=peni
session6 <- bow(pencillink3,</pre>
           user_agent = "For Educational Purpose")
scrapeNodes <- function(selector){</pre>
```

```
scrape(session6) %>%
  html_nodes(selector) %>%
  html_text(trim = TRUE)
scrapedCategory6 <- "Pencil"</pre>
scrapedpencilName3 <- scrapeNodes("h2.a-size-mini.a-spacing-none.a-color-base.s-line-clamp-4")</pre>
scrapedpencilName3 <- scrapedpencilName3[1:45]</pre>
scrapedpencilPrice3 <- scrapeNodes("span.a-offscreen")</pre>
scrapedpencilPrice3 <- scrapedpencilPrice3[1:45]</pre>
scrapedpencilRatings3 <- scrapeNodes("span.a-icon-alt")</pre>
scrapedpencilRatings3 <- scrapedpencilRatings3[1:45]</pre>
scrapedpencilReviews3 <- scrapeNodes("span.a-size-base.s-underline-text")</pre>
scrapedpencilReviews3 <- scrapedpencilReviews3[1:45]</pre>
pencil_products <- rbind(pencil_products, data.frame(category = scrapedCategory5,name = scrapedpencilNa
                     price = scrapedpencilPrice2,
                     ratings = scrapedpencilRatings2,
                     no_of_reviews = scrapedpencilReviews2))
pencil_products <- pencil_products[1:100,]</pre>
#View(pencil_products)
MERGING TWO PRODUCTS
scraped_products <- rbind(notebook_products, pencil_products)</pre>
#View(scraped products)
10 PRODUCTS
product1
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product1 = data.frame()
scrapedCategory <- "Notebook"</pre>
###
  link = "https://www.amazon.co.uk/Blue-Acorn-Spiral-Bound-Sketchbook/product-reviews/BOCH3KXXSN/ref=cm
      sessionProd1 <- bow(link,</pre>
```

```
user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product1 <- rbind(product1, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
                            review = scrapedReview,
                            date = scrapedDate,
                           ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/Blue-Acorn-Spiral-Bound-Sketchbook/product-reviews/BOCH3KXXSN/r
  sessionProd2 <- bow(link2,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
```

```
product1 <- rbind(product1, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer2,
                            review = scrapedReview2,
                           date = scrapedDate2,
                           ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/Blue-Acorn-Spiral-Bound-Sketchbook/product-reviews/BOCH3KXXSN/r
  sessionProd3 <- bow(link3,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product1 <- rbind(product1, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer3,
                            review = scrapedReview3,
                            date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product1)
product2
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product2 = data.frame()
scrapedCategory <- "Notebook"</pre>
###
```

```
link = "https://www.amazon.co.uk/Oxford-Notebook-Subject-College-63756/product-reviews/B08VF9B772/ref
      sessionProd1 <- bow(link,</pre>
               user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html nodes(selector) %>%
       html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product2 <- rbind(product2, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
                            review = scrapedReview,
                            date = scrapedDate,
                           ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/Oxford-Notebook-Subject-College-63756/product-reviews/B08VF9B77
  sessionProd2 <- bow(link2,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
```

```
scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product2 <- rbind(product2, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer2,
                           review = scrapedReview2,
                           date = scrapedDate2,
                           ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/Oxford-Notebook-Subject-College-63756/product-reviews/B08VF9B77
  sessionProd3 <- bow(link3,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product2 <- rbind(product2, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer3,
                           review = scrapedReview3,
                           date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product2)
product3
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product3 = data.frame()
scrapedCategory <- "Notebook"</pre>
```

```
###
  link = "https://www.amazon.co.uk/Leitz-Covered-Notebook-Squared-Sheets/product-reviews/B073QYZD5Q/ref
      sessionProd1 <- bow(link,</pre>
               user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product3 <- rbind(product3, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
                            review = scrapedReview,
                            date = scrapedDate,
                           ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/Leitz-Covered-Notebook-Squared-Sheets/product-reviews/B073QYZD5
  sessionProd2 <- bow(link2,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
```

```
scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product3 <- rbind(product3, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer2,
                            review = scrapedReview2,
                            date = scrapedDate2,
                           ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/Leitz-Covered-Notebook-Squared-Sheets/product-reviews/B073QYZD5
  sessionProd3 <- bow(link3,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product3 <- rbind(product3, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer3,
                            review = scrapedReview3,
                            date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product3)
product4
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
```

```
product4 = data.frame()
scrapedCategory <- "Notebook"</pre>
###
  link = "https://www.amazon.co.uk/Oxford-My-Notes-Wirebound-Perforated/product-reviews/B00BI5NOGW/ref=
      sessionProd1 <- bow(link,</pre>
                user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product4 <- rbind(product4, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
                            review = scrapedReview,
                            date = scrapedDate,
                           ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/Oxford-My-Notes-Wirebound-Perforated/product-reviews/B00BI5N0GW
  sessionProd2 <- bow(link2,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
```

```
scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product4 <- rbind(product4, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer2,
                            review = scrapedReview2,
                            date = scrapedDate2,
                           ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/Oxford-My-Notes-Wirebound-Perforated/product-reviews/B00BI5N0GW
  sessionProd3 <- bow(link3,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product4 <- rbind(product4, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer3,
                            review = scrapedReview3,
                           date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product4)
product5
library(dplyr)
library(rvest)
```

```
library(polite)
library(httr)
library(selectr)
product5 = data.frame()
scrapedCategory <- "Notebook"</pre>
###
  link = "https://www.amazon.co.uk/Amazon-Basics-Casebound-Notebook-21x13-3x1-6/product-reviews/B01DN8T.
      sessionProd1 <- bow(link,</pre>
               user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      }
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product5 <- rbind(product5, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
                            review = scrapedReview,
                            date = scrapedDate,
                           ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/Amazon-Basics-Casebound-Notebook-21x13-3x1-6/product-reviews/B0
  sessionProd2 <- bow(link2,</pre>
                user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
```

```
scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product5 <- rbind(product5, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer2,
                            review = scrapedReview2,
                            date = scrapedDate2,
                           ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/Amazon-Basics-Casebound-Notebook-21x13-3x1-6/product-reviews/B0
  sessionProd3 <- bow(link3,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product5 <- rbind(product5, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer3,
                            review = scrapedReview3,
                            date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product5)
```

```
product6
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product6 = data.frame()
scrapedCategory <- "Pencil"</pre>
###
  link = "https://www.amazon.co.uk/STAEDTLER-121-2-BK5D-Noris-pencils/product-reviews/B093L3F7GN/ref=cm
      sessionProd1 <- bow(link,</pre>
                user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product6 <- rbind(product6, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer,
                           review = scrapedReview,
                           date = scrapedDate,
                           ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/STAEDTLER-121-2-BK5D-Noris-pencils/product-reviews/B093L3F7GN/r
```

sessionProd2 <- bow(link2,</pre>

```
user_agent = "For Educational Purpose")
    scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
    scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
    scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
    scrapedReview2 <- scrapedReview2[1:10]</pre>
    scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
    scrapedDate2 <- scrapedDate2[1:10]</pre>
    scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
    scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
    product6 <- rbind(product6, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                          reviewer = scrapedReviewer2,
                          review = scrapedReview2,
                          date = scrapedDate2,
                         ratings = scrapedprodRating2))
    ####
    link3 = "https://www.amazon.co.uk/STAEDTLER-121-2-BK5D-Noris-pencils/product-reviews/B093L3F7GN/r
sessionProd3 <- bow(link3,</pre>
             user_agent = "For Educational Purpose")
    scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
    scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
    scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
    scrapedReview3 <- scrapedReview3[1:10]</pre>
    scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
    scrapedDate3 <- scrapedDate3[1:10]</pre>
    scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
    scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
    product6 <- rbind(product6, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                          reviewer = scrapedReviewer3,
                          review = scrapedReview3,
                          date = scrapedDate3,
```

```
ratings = scrapedprodRating3))
#View(product6)
product7
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product7 = data.frame()
scrapedCategory <- "Pencil"</pre>
###
  link = "https://www.amazon.co.uk/STAEDTLER-121-2-BK5D-Noris-pencils/product-reviews/B093L3F7GN/ref=cm
      sessionProd1 <- bow(link,</pre>
                user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product7 <- rbind(product7, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
                            review = scrapedReview,
                            date = scrapedDate,
                           ratings = scrapedprodRating))
######
```

```
link2 = "https://www.amazon.co.uk/STAEDTLER-121-2-BK5D-Noris-pencils/product-reviews/B093L3F7GN/r
sessionProd2 <- bow(link2,</pre>
             user_agent = "For Educational Purpose")
    scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
    scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
    scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
    scrapedReview2 <- scrapedReview2[1:10]</pre>
    scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
    scrapedDate2 <- scrapedDate2[1:10]</pre>
    scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
    scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
    product7 <- rbind(product7, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                          reviewer = scrapedReviewer2,
                          review = scrapedReview2,
                          date = scrapedDate2,
                         ratings = scrapedprodRating2))
    ####
    link3 = "https://www.amazon.co.uk/STAEDTLER-121-2-BK5D-Noris-pencils/product-reviews/B093L3F7GN/r
sessionProd3 <- bow(link3,</pre>
             user_agent = "For Educational Purpose")
    scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
    scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
    scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
    scrapedReview3 <- scrapedReview3[1:10]</pre>
    scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
    scrapedDate3 <- scrapedDate3[1:10]</pre>
    scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
    scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
    product7 <- rbind(product7, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
```

```
reviewer = scrapedReviewer3,
                            review = scrapedReview3,
                            date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product7)
product8
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product8 = data.frame()
scrapedCategory <- "Pencil"</pre>
###
  link = "https://www.amazon.co.uk/AmazonBasics-Presharpened-Wood-Cased-Pencils/product-reviews/B071JM6
      sessionProd1 <- bow(link,</pre>
                user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      }
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product8 <- rbind(product8, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer,
```

review = scrapedReview,

```
date = scrapedDate,
                          ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/AmazonBasics-Presharpened-Wood-Cased-Pencils/product-reviews/B0
  sessionProd2 <- bow(link2,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product8 <- rbind(product8, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer2,
                           review = scrapedReview2,
                           date = scrapedDate2,
                          ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/AmazonBasics-Presharpened-Wood-Cased-Pencils/product-reviews/B0
  sessionProd3 <- bow(link3,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
```

```
scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product8 <- rbind(product8, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer3,
                            review = scrapedReview3,
                            date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product8)
product9
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product9 = data.frame()
scrapedCategory <- "Pencil"</pre>
###
  link = "https://www.amazon.co.uk/Ecolutions-Evolution-655%C3%82-HB-Pencil-Eraser/product-reviews/B000
      sessionProd1 <- bow(link,</pre>
               user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating <- scrapedprodRating[1:10]</pre>
```

```
product9 <- rbind(product9, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer,
                           review = scrapedReview,
                           date = scrapedDate,
                          ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/Ecolutions-Evolution-655%C3%82-HB-Pencil-Eraser/product-reviews
  sessionProd2 <- bow(link2,
               user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product9 <- rbind(product9, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer2,
                           review = scrapedReview2,
                           date = scrapedDate2,
                          ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/Ecolutions-Evolution-655%C3%82-HB-Pencil-Eraser/product-reviews
  sessionProd3 <- bow(link3,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
      scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
```

```
scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product9 <- rbind(product9, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                            reviewer = scrapedReviewer3,
                           review = scrapedReview3,
                            date = scrapedDate3,
                           ratings = scrapedprodRating3))
#View(product9)
product10
library(dplyr)
library(rvest)
library(polite)
library(httr)
library(selectr)
product10 = data.frame()
scrapedCategory <- "Pencil"</pre>
###
  link = "https://www.amazon.co.uk/BIC-Evolution-Original-Graphite-Pencils/product-reviews/B003V8BIFE/r
      sessionProd1 <- bow(link,</pre>
                user_agent = "For Educational Purpose")
      scrapeNodes <- function(selector){</pre>
      scrape(sessionProd1) %>%
        html_nodes(selector) %>%
        html_text(trim = TRUE)
      }
      scrapedprodName <- scrapeNodes("h1.a-size-large.a-text-ellipsis")</pre>
      scrapedReviewer <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer <- scrapedReviewer[1:10]</pre>
      scrapedReview <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview <- scrapedReview[1:10]</pre>
      scrapedDate <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate <- scrapedDate[1:10]</pre>
      scrapedprodRating <- scrapeNodes("span.a-icon-alt")</pre>
```

```
scrapedprodRating <- scrapedprodRating[1:10]</pre>
      product10 <- rbind(product10, data.frame(category = scrapedCategory,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer,
                           review = scrapedReview,
                           date = scrapedDate,
                          ratings = scrapedprodRating))
######
      link2 = "https://www.amazon.co.uk/BIC-Evolution-Original-Graphite-Pencils/product-reviews/B003V8B
  sessionProd2 <- bow(link2,</pre>
               user_agent = "For Educational Purpose")
      scrapedReviewer2 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer2 <- scrapedReviewer2[1:10]</pre>
      scrapedReview2 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview2 <- scrapedReview2[1:10]</pre>
      scrapedDate2 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate2 <- scrapedDate2[1:10]</pre>
      scrapedprodRating2 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating2 <- scrapedprodRating2[1:10]</pre>
      product10 <- rbind(product10, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer2,
                           review = scrapedReview2,
                           date = scrapedDate2,
                          ratings = scrapedprodRating2))
      ####
      link3 = "https://www.amazon.co.uk/BIC-Evolution-Original-Graphite-Pencils/product-reviews/B003V8B
  sessionProd3 <- bow(link3,</pre>
               user agent = "For Educational Purpose")
      scrapedReviewer3 <- scrapeNodes("span.a-profile-name")</pre>
      scrapedReviewer3 <- scrapedReviewer3[1:10]</pre>
      scrapedReview3 <- scrapeNodes("span.a-size-base.review-text.review-text-content")</pre>
      scrapedReview3 <- scrapedReview3[1:10]</pre>
```

```
scrapedDate3 <- scrapeNodes("span.a-size-base.a-color-secondary.review-date")</pre>
      scrapedDate3 <- scrapedDate3[1:10]</pre>
      scrapedprodRating3 <- scrapeNodes("span.a-icon-alt")</pre>
      scrapedprodRating3 <- scrapedprodRating3[1:10]</pre>
      product10 <- rbind(product10, data.frame(category = scrapedCategory ,name = scrapedprodName,</pre>
                           reviewer = scrapedReviewer3,
                           review = scrapedReview3,
                          date = scrapedDate3,
                          ratings = scrapedprodRating3))
#View(product10)
all_reviews <- rbind(product1, product2, product3, product4, product5, product6, product7, product8, pr
#View(all_reviews)
\#install.packages("usethis")
#library(usethis)
#git config --global user.email "meladry.olivo@students.isatu.edu.ph"
#git config --global user.name "Mel Adry Olivo"
```