```
library(tidyverse)
library(rvest)
Warning message in system("timedatectl", intern = TRUE):
"running command 'timedatectl' had status 1"
Warning message:
"Failed to locate timezone database"
- Attaching packages -
                                                       - tidyverse 1.3.1

✓ ggplot2 3.3.5

                ✓ purrr 0.3.4
- Conflicts -
                                                  - tidyverse_conflicts()
* dplyr::filter() masks stats::filter()
* purrr::flatten() masks jsonlite::flatten()
* dplyr::lag() masks stats::lag()
Attaching package: 'rvest'
```

```
url <- "https://www.imdb.com/search/title/?groups=top_100&sort=user_rating,desc"
```

```
print(url)
[1] "https://www.imdb.com/search/title/?groups=top_100&sort=user_rating,desc"
imdb <- read_html(url)</pre>
```

```
imdb
```

```
#Movie title
titles <- imdb %>%
  html_nodes("h3.lister-item-header") %>%
  html_text2() #2 is to remove special character
```

```
ratings <- imdb %>%
  html_nodes("div.ratings-imdb-rating") %>%
  html_text2() %>%
  as.numeric()
```

ratings

```
9.3 \cdot 9.2 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 8.9 \cdot 8.8 \cdot 8.8 \cdot 8.8 \cdot 8.8 \cdot 8.8 \cdot 8.8 \cdot 8.7 \cdot 8.7 \cdot 8.7 \cdot 8.7 \cdot 8.6 \cdot 8.5 \cdot 8.
```

```
num_votes <- imdb %>%
html_nodes("p.sort-num_votes-visible") %>%
html_text2()
```

```
#build a dataset

df <- data.frame(
    title = titles,
    rating = ratings,
    num_vote = num_votes
)

head(df)</pre>
```

A data.frame: 6×3

	title	rating	num_vote
	<chr></chr>	<dbl></dbl>	<chr></chr>
1	1. The Shawshank Redemption (1994)	9.3	Votes: 2,696,944 Gross: \$28.34M Top 250: #1
2	2. The Godfather (1972)	9.2	Votes: 1,871,486 Gross: \$134.97M Top 250: #2
3	3. The Dark Knight (2008)	9.0	Votes: 2,670,648 Gross: \$534.86M Top 250: #3
4	4. Schindler's List (1993)	9.0	Votes: 1,363,536 Gross: \$96.90M Top 250: #6
5	5. The Godfather Part II (1974)	9.0	Votes: 1,279,218 Gross: \$57.30M Top 250: #4
6	6. 12 Angry Men (1957)	9.0	Votes: 796,425 Gross: \$4.36M Top 250: #5

Mini Project 02

```
library(tidyverse)
library(rvest)
```

```
url <- read_html("https://specphone.com/Samsung-Galaxy-S23-Ultra-5G.html")</pre>
```

```
att <- url %>%
   html_nodes("div.topic") %>%
   html_text2()

detail <- url %>%
   html_nodes("div.detail") %>%
   html_text2()
```

```
data.frame(attribute = att, value = detail)
```

A data.frame: 33×2

attribute	value			
<chr></chr>	<chr></chr>			
วันเปิดตัว	มกราคม 2566			
วันวางจำหน่าย	ยังไม่วางจำหน่าย			
ขนาด	163.40 x 78.10 x 8.90 มม.			
น้ำหนัก	233 กรัม			
วัสดุ	Glass front (Gorilla Glass Victus 2), glass back (Gorilla Glass Victus 2), aluminum frame			
SIM	รองรับ 2 ซิมการ์ด (nano sim, nano sim)			
Technology	HSPA 42.2/5.76 Mbps, LTE-A (CA), 5G			
2G	850/900/1800/1900			
3G	850/900/1900/2100			
4G	850/900/1900/2100/2600			
5G	2100/2600/3500/4700			
ความเร็ว	HSPA 42.2/5.76 Mbps, LTE-A (CA), 5G			
ประเภท	Dynamic AMOLED 2X			
ขนาดหน้าจอ	6.80 นิ้ว			
ความละเอียด	1440 x 3088 pixels			
ระบบปฏิบัติการ	Android 12			
ชิปประมวลผล	Qualcomm Snapdragon 8 Gen 2 SM8550 3.2 GHz			
ชิปกราฟิก	Adreno 740			
หน่วยความจำ	12 GB			
ความจุ	512/1024 GB			
Memory Card	ไม่รองรับ			
กล้องหลัก	ตัวที่ 1: 200 MP, f/1.7, 23mm (wide), 1/1.3 ตัวที่ 2: 10 MP, f/4.9, 230mm (periscope telephoto), 1/3.52 ตัวที่ 3: 10 MP, f/2.4, 70mm (telephoto), 1/3.52 ตัวที่ 4: 12 MP, f/2.2, 13mm, 120° (ultrawide), 1/2.55			
ความละเอียด วีดีโอ	8K@24/30fps, 4K@30/60fps, 1080p@30/60/240fps, 720p@960fps, HDR10+, stereo sound rec., gyro-EIS			
กล้องหน้า	ตัวที่ 1: 12 MP, f/2.2, 25mm (wide), PDAF			
Bluetooth	5.3, A2DP, LE			
Wi-Fi	802.11 a/b/g/n/ac/6e, tri			
USB	Type-C			
GPS	GPS, GLONASS, BDS, GALILE			
NFC	รอบรับ			
ความจุ	5,000 mAh			
ประเภท	Non-removable Li-Po Batt			
Wireless Charging	รองรับ			
Fast Charging	รองรับ (45W)			

```
# All sumsung
samsung_url <- read_html("https://specphone.com/brand/Samsung")</pre>
```

```
links <- samsung_url %>%
  html_nodes("li.mobile-brand-item a") %>%
  html_attr("href")
```

```
full_links <- paste0("https://specphone.com", links)</pre>
```

full_links

```
'https://specphone.com/Samsung-Galaxy-M13.html' · 'https://specphone.com/Samsung-Galaxy-A23.html' ·
'https://specphone.com/Samsung-Galaxy-A13.html' ·
'https://specphone.com/Samsung-Galaxy-M32-5G.html' ·
'https://specphone.com/Samsung-Galaxy-A12-Nacho.html' ·
'https://specphone.com/Samsung-Galaxy-Pocket-Neo.html' ·
'https://specphone.com/Samsung-Galaxy-Young.html' ·
'https://specphone.com/Samsung-Galaxy-J1-Mini.html' ·
'https://specphone.com/Samsung-Galaxy-A01-Core-1-16GB.html' ·
'https://specphone.com/Samsung-Galaxy-V-PLUS.html' ·
'https://specphone.com/Samsung-Galaxy-Young-2.html' ·
'https://specphone.com/Samsung-Galaxy-M02.html' · 'https://specphone.com/Samsung-Galaxy-A11.html' ·
'https://specphone.com/Samsung-Galaxy-J2-Pro-2018.html' ·
'https://specphone.com/Samsung-Galaxy-A12-2021.html' ·
'https://specphone.com/Samsung-Galaxy-A21s-3-32GB.html' ·
'https://specphone.com/Samsung-Galaxy-J5.html' · 'https://specphone.com/Samsung-Galaxy-J4.html' ·
'https://specphone.com/Samsung-Galaxy-Core-2-Duos.html' ·
'https://specphone.com/Samsung-Galaxy-Ace-Plus.html' ·
'https://specphone.com/Samsung-Galaxy-A20.html' · 'https://specphone.com/Samsung-Galaxy-Chat.html' ·
'https://specphone.com/Samsung-Galaxy-Gio.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-A7-Lite-LTE.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-A-10.5WIFI.html' ·
'https://specphone.com/Samsung-Galaxy-Alpha.html' ·
'https://specphone.com/Samsung-Galaxy-S3-Slim.html' ·
'https://specphone.com/Samsung-Galaxy-S4-zoom.html' ·
'https://specphone.com/Samsung-Galaxy-Xcover-2.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-8.9-3G-16GB.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-A8-LTE-2021.html' ·
'https://specphone.com/Samsung-Galaxy-A8-2018.html' ·
'https://specphone.com/Samsung-Galaxy-Tab4-8.0-wifi.html' ·
'https://specphone.com/Samsung-Galaxy-M33-5G.html' ·
'https://specphone.com/Samsung-Galaxy-A50.html' · 'https://specphone.com/Samsung-Galaxy-E7.html' ·
'https://specphone.com/Samsung-Galaxy-S6.html' ·
'https://specphone.com/Samsung-Galaxy-S20-FE.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-S4-WIFI.html' ·
'https://specphone.com/Samsung-Galaxy-S7.html' ·
'https://specphone.com/Samsung-Galaxy-Note-5-Exynos.html' ·
'https://specphone.com/Samsung-Galaxy-TabPRO-12.2-LTE.html' ·
'https://specphone.com/Samsung-Galaxy-S4-Active.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-Active-3.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-S3-9.7.html' ·
'https://specphone.com/Samsung-Galaxy-S6-edge.html' ·
'https://specphone.com/Samsung-Galaxy-Note-4-Exynos.html' ·
'https://specphone.com/Samsung-Galaxy-Round.html' ·
'https://specphone.com/Samsung-Galaxy-Note-20-Ultra-5G.html' ·
'https://specphone.com/Samsung-ATIV-Q.html' ·
'https://specphone.com/Samsung-ATIV-Smart-PC-PRO.html' ·
'https://specphone.com/Samsung-Galaxy-S23-Ultra-5G8-256GB.html' ·
'https://specphone.com/Samsung-Galaxy-S22-Ultra12-128GB.html' ·
'https://specphone.com/Samsung-Galaxy-Z-Flip-5G.html' ·
'https://specphone.com/Samsung-Galaxy-Z-Flip.html' ·
'https://specphone.com/Samsung-Galaxy-Tab-S8-Ultra-5G.html' ·
'https://specphone.com/Samsung-Galaxy-S21-Ultra-16-512GB.html' ·
'https://specphone.com/Samsung-Galaxy-S23-Ultra-5G.html' ·
'https://specphone.com/Samsung-Galaxy-S10-Plus-Ram-12GB.html' ·
'https://specphone.com/Samsung-Galaxy-Z-Fold-3.html'
```

```
result <- data.frame()</pre>
for (links in full_links[1:10]) {
    ss_topic <- links %>%
    read_html %>%
        html_nodes("div.topic") %>%
        html_text2()
    ss_detail <- links %>%
    read_html %>%
        html_nodes("div.detail") %>%
        html_text2()
    tmp <- data.frame(attribute = ss_topic,</pre>
                         value = ss_detail)
    result <- bind_rows(result,tmp)</pre>
    print("Progress ...")
}
print(result)
[1] "Progress ..."
```

```
#write CSV
write_csv(result, "Result_ss.csv")
```

[1] "Progress ..."

1

2

4

5

6 7

8

attribute วันเปิดตัว

ขนาด

น้ำหนัก

วัสดุ SIM

> 2G 3G

วันวางจำหน่าย

Technology

print(head(result),3)

	attribute		value
1	วันเปิดตัว		มิถุนายน 2565
2	วันวางจำหน่าย		ยังไม่วางจำหน่าย
3	ขนาด		165.40 x 76.90 x 8.40 มม.
4	น้ำหนัก		192 กรัม
5	วัสดุ	Glass front,	plastic back, plastic frame
6	SIM	รองรับ 2	ซิมการ์ด (nano sim, nano sim)