JUMIA R WEB SCRAPER

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### Functions Used

* read\_html()-creates html document from a url/link
* html\_nodes()-selects part of a document using css selectors
* html text()-extract text from selected nodes
* html\_table()-extract table from selected nodes
* View()-Used for printing the table

### Data Source:

Click [here](https://www.jumia.co.ke/catalog/?q=sumsung+smartphones&page=1#catalog-listing) to open jumia website

### Load the libraries

library(tidyverse)  
library(rvest)  
library(gtExtras)

## 1.Webscraping Name and Price of the first 10(out of 40) Different sumsung smartphones from a page

link=("https://www.jumia.co.ke/catalog/?q=sumsung+smartphones&page=1#catalog-listing")  
 page=read\_html(link)  
 Name<-page %>% html\_nodes(".info .name") %>% html\_text()  
 Price<-page %>% html\_nodes(".info .prc") %>% html\_text()  
 df<-data.frame(Name,Price) %>% head(10)  
 df %>% gt() %>% tab\_header(title="Sumsung Smartphones") %>%   
 cols\_align("left")

Table 1: Sumsung Smartphones

| Name | Price |
| --- | --- |
| Samsung GALAXY A15, 6.5'' HD+, 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh - Black | KSh 16,699 |
| Samsung Galaxy A15, 6.5'' Display, 4GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue(2YRs WRTY) | KSh 16,750 |
| Samsung Galaxy A15, Display 6.5" //128GB Storage + 4GB RAM //Dual SIM //5000mAh //50MP Camera /Ksly -LB | KSh 17,499 |
| Samsung Galaxy A05, 6.7'' 4GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Black + Smart Watch & Buds | KSh 13,999 |
| Samsung Galaxy A05, 6.7", 64GB + 4GB RAM (Dual SIM), 5000mAh, Black (2YRs WRTY) | KSh 10,499 |
| Samsung Galaxy A14 4G, 6.6", 64GB + 4GB RAM (Dual SIM), 5000mAh, Black, 2YRs WRTY | KSh 13,999 |
| Samsung GALAXY A15, 6.5'', 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh - Blue + Smart watch & Power Bank | KSh 17,399 |
| Samsung Galaxy A05, 6.7", 64GB + 4GB RAM (Dual SIM), 5000mAh, Black, (2YRs WRTY) | KSh 11,560 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue + Smart watch & Power bank | KSh 19,280 |
| Samsung Galaxy A05, 6.7", 64GB + 4GB RAM (Dual SIM), 5000mAh, Silver, (2YRs WRTY) | KSh 11,560 |

## 2.Web scarping the first 50(out of 200) rows from multiple pages(1-5)

df=data.frame()  
for (page\_no in c(1:5)){  
 link=paste0("https://www.jumia.co.ke/catalog/?q=sumsung+smartphones&page=",page\_no,"#catalog-listing")  
 page=read\_html(link)  
 Name<-page %>% html\_nodes(".info .name") %>% html\_text()  
 Price<-page %>% html\_nodes(".info .prc") %>% html\_text()   
 page\_no=print(paste("page",page\_no))  
 df=rbind(df,data.frame(Name,Price)) %>% head(50)  
   
}

## [1] "page 1"  
## [1] "page 2"  
## [1] "page 3"  
## [1] "page 4"  
## [1] "page 5"

df %>% gt() %>% tab\_header(title="Sumsung Smartphones") %>%   
 cols\_align("left")

Table 1: Sumsung Smartphones

| Name | Price |
| --- | --- |
| Samsung GALAXY A15, 6.5'' HD+, 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh - Black | KSh 16,699 |
| Samsung Galaxy A15 , 6.5", 128GB + 4GB RAM (Dual SIM), 5000mAh, 4G, Optimistic Blue (2YRs WRTY) | KSh 14,699 |
| Samsung Galaxy A15, 6.5'' Display, 4GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue(2YRs WRTY) | KSh 16,750 |
| Samsung Galaxy A15, Display 6.5" //128GB Storage + 4GB RAM //Dual SIM //5000mAh //50MP Camera /Ksly -LB | KSh 17,499 |
| Samsung Galaxy A05, 6.7'' 4GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Black + Smart Watch & Buds | KSh 13,999 |
| Samsung Galaxy A05, 6.7", 64GB + 4GB RAM (Dual SIM), 5000mAh, Black (2YRs WRTY) | KSh 10,499 |
| Samsung Galaxy A14 4G, 6.6", 64GB + 4GB RAM (Dual SIM), 5000mAh, Black, 2YRs WRTY | KSh 13,999 |
| Samsung GALAXY A15, 6.5'', 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh - Blue + Smart watch & Power Bank | KSh 17,399 |
| Samsung Galaxy A05, 6.7", 64GB + 4GB RAM (Dual SIM), 5000mAh, Black, (2YRs WRTY) | KSh 11,560 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue + Smart watch & Power bank | KSh 19,280 |
| Samsung Galaxy A05, 6.7", 64GB + 4GB RAM (Dual SIM), 5000mAh, Silver, (2YRs WRTY) | KSh 11,560 |
| Samsung Galaxy A05, 6.7'' 4GB RAM + 64GB ROM (Dual Sim) 50MP Camera, 5000mAh - Black | KSh 12,199 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh+WATCH BUDS | KSh 19,650 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue + Free Gifts | KSh 18,920 |
| Samsung Galaxy A15, 6.5'' HD+, 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh -+CVS SP CP | KSh 17,699 |
| Samsung Galaxy A15, 6.5'', 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue + Free Gifts | KSh 18,999 |
| Samsung Galaxy A15, 6.5'', 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue + Smart Watch & Power Bank | KSh 19,280 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB(Dual Sim) 50MP, 5000mAh - Blue + Smart Watch & Earpods. | KSh 19,280 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh+SPEAKER WATCH 2 | KSh 19,650 |
| Samsung Galaxy A05S, 6.7", 90HZ, 4GB RAM + 128GB ROM, 50MP, 5000mAh - Silver | KSh 14,950 |
| Samsung Galaxy A05s, 6.7", 64GB + 4GB (Dual SIM), 5000mAh, Black | KSh 12,499 |
| Samsung Galaxy A05S, 6.7", 90HZ, 4GB RAM + 128GB ROM, 50MP, 5000mAh - Black | KSh 14,899 |
| Samsung GALAXY A15, 6.5'' HD+, 8GB RAM + 256GB ROM, DUAL SIM, 50MP, 5000mAh - Blue + FREEBIES | KSh 24,999 |
| Samsung GALAXY A15, 6.5'' HD+, 8GB RAM + 256GB ROM, DUAL SIM, 50MP, 5000mAh - Black | KSh 23,998 |
| Samsung Galaxy A15, 6.5", 128GB + 4GB RAM (Dual SIM), 5000mAh, Light Blue | KSh 16,599 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh - Blue | KSh 18,550 |
| Samsung GALAXY A15, 6.5'', 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh - Blue | KSh 16,799 |
| Samsung Galaxy A05, 6.7'' 4GB RAM + 64GB ROM (Dual Sim) 50MP, 5000mAh - Black + Free Gifts | KSh 12,699 |
| Samsung Galaxy A15, 6.5''HD+, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh, Blue | KSh 18,550 |
| Samsung GALAXY A05S,6.7"PLS LCD,90HZ,4GB RAM/64GB ROM,5000MAH,50MP+F9 BUDS | KSh 13,990 |
| Samsung GALAXY A05,6.7 PLS LCD DISPLAY ,4GB RAM/64GB ROM,ANDROID 13,5000MAH,4G,DUAL,50MP+BEST GIFTS | KSh 12,299 |
| Samsung Galaxy A05s, Display 6.7" //128GB ROM + 4GB RAM //Dual SIM //5000mAh //50MP /Ksly +FREE PB+BT+O+R+W | KSh 16,199 |
| Samsung Galaxy A15, 6.5", 128GB + 6GB RAM (Dual SIM), 5000mAh, Blue | KSh 18,599 |
| Samsung Galaxy A05s, 6.7", 128GB + 4GB (Dual SIM), 5000mAh, Black | KSh 14,990 |
| Samsung Galaxy A15, Disp 6.5" //128GB ROM + 4GB RAM //Dual SIM //5000mAh // 50MP Camera /Ksly +FREE BT SPEAKER+MW | KSh 18,299 |
| Samsung Galaxy A04e, 6.5", 3GB RAM + 32GB ROM, 13MP, Dual SIM, Black | KSh 10,790 |
| Samsung Galaxy A05S, 6.7", 90HZ, 4GB RAM + 64GB ROM, 50MP, 5000mAh - Black + Free Gifts | KSh 12,999 |
| Samsung Galaxy A15, 6.5", 256GB + 8GB RAM (Dual SIM), 5000mAh, 4G-Blue Black + Free Charging Adapter | KSh 24,500 |
| Samsung Galaxy A15, 6.5'' HD+, 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh -MAGNIFIER WATCH | KSh 17,699 |
| Samsung Galaxy S24 Ultra Dual SIM - 12GB RAM - 512GB - 5G - Black | KSh 118,150 |
| Samsung Galaxy A15, 6.5'' Display, 6GB RAM + 128GB ROM (Dual Sim) 50MP, 5000mAh+ASDE | KSh 19,899 |
| Samsung Galaxy A15, 6.5'' HD+, 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh +I12PBSW | KSh 17,700 |
| Samsung GALAXY A15, 6.5'' , 8GB RAM + 256GB ROM (DUAL SIM) 50MP CAMERA, 5000mAh - Blue + FREEBIES | KSh 24,999 |
| Samsung Galaxy S24 Ultra 5G 512gb | KSh 150,000 - KSh 160,000 |
| Samsung Galaxy A04e, 6.5", 3GB RAM + 32GB ROM, 13MP, 5000mAh, Dual SIM, Black + Smart Watch & Earbuds | KSh 11,699 |
| Samsung Galaxy A05s, Display 6.7" //128GB ROM + 4GB RAM //Dual SIM //5000mAh //50MP /Ksly -B | KSh 15,299 |
| Samsung Galaxy A15, 6.5'' HD+, 4GB RAM + 128GB ROM, DUAL SIM, 50MP, 5000mAh - Black + FREEBIES | KSh 17,799 |
| Samsung Galaxy A15, 6.5", 128GB + 4GB RAM (Dual SIM), 5000mAh, Black | KSh 16,599 |
| Samsung Galaxy A15, 6.5", 128GB + 6GB RAM (Dual SIM), 5000mAh, Blue Black + Adapter & Silicone Cover | KSh 19,399 |
| Samsung Galaxy A05,6.7" Inches Display,4gb Ram/128gb Rom,5000mah,50mp Camera, Dual Sim,+spbt | KSh 13,799 |

## 3.Separating the “Name” column into 4 columns

df=data.frame()  
for (page\_no in c(1:5)){  
 link=paste0("https://www.jumia.co.ke/catalog/?q=sumsung+smartphones&page=",page\_no,"#catalog-listing")  
 page=read\_html(link)  
 Name<-page %>% html\_nodes(".info .name") %>% html\_text()  
 Price<-page %>% html\_nodes(".info .prc") %>% html\_text()   
 page\_no=print(paste("page",page\_no))  
 df=rbind(df,data.frame(Name,Price)) %>% head(50)  
   
}

## [1] "page 1"  
## [1] "page 2"  
## [1] "page 3"  
## [1] "page 4"  
## [1] "page 5"

df %>% separate(Name,c("Model","Inches","Storage\_capacity","Battery"),  
 sep=",") %>%  
 gt() %>% tab\_header(title="Sumsung Smartphones") %>%   
 cols\_align("left")

Table 1: Sumsung Smartphones

| Model | Inches | Storage\_capacity | Battery | Price |
| --- | --- | --- | --- | --- |
| Samsung GALAXY A15 | 6.5'' HD+ | 4GB RAM + 128GB ROM | DUAL SIM | KSh 16,699 |
| Samsung Galaxy A15 | 6.5'' Display | 4GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Blue(2YRs WRTY) | KSh 16,750 |
| Samsung Galaxy A15 | Display 6.5" //128GB Storage + 4GB RAM //Dual SIM //5000mAh //50MP Camera /Ksly -LB | NA | NA | KSh 17,499 |
| Samsung Galaxy A05 | 6.7'' 4GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Black + Smart Watch & Buds | NA | KSh 13,999 |
| Samsung Galaxy A05 | 6.7" | 64GB + 4GB RAM (Dual SIM) | 5000mAh | KSh 10,499 |
| Samsung Galaxy A14 4G | 6.6" | 64GB + 4GB RAM (Dual SIM) | 5000mAh | KSh 13,999 |
| Samsung GALAXY A15 | 6.5'' | 4GB RAM + 128GB ROM | DUAL SIM | KSh 17,399 |
| Samsung Galaxy A05 | 6.7" | 64GB + 4GB RAM (Dual SIM) | 5000mAh | KSh 11,560 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Blue + Smart watch & Power bank | KSh 19,280 |
| Samsung Galaxy A05 | 6.7" | 64GB + 4GB RAM (Dual SIM) | 5000mAh | KSh 11,560 |
| Samsung Galaxy A05 | 6.7'' 4GB RAM + 64GB ROM (Dual Sim) 50MP Camera | 5000mAh - Black | NA | KSh 12,199 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh+WATCH BUDS | KSh 19,650 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Blue + Free Gifts | KSh 18,920 |
| Samsung Galaxy A15 | 6.5'' HD+ | 4GB RAM + 128GB ROM | DUAL SIM | KSh 17,699 |
| Samsung Galaxy A15 | 6.5'' | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Blue + Free Gifts | KSh 18,999 |
| Samsung Galaxy A15 | 6.5'' | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Blue + Smart Watch & Power Bank | KSh 19,280 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB(Dual Sim) 50MP | 5000mAh - Blue + Smart Watch & Earpods. | KSh 19,280 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh+SPEAKER WATCH 2 | KSh 19,650 |
| Samsung Galaxy A05S | 6.7" | 90HZ | 4GB RAM + 128GB ROM | KSh 14,950 |
| Samsung Galaxy A05s | 6.7" | 64GB + 4GB (Dual SIM) | 5000mAh | KSh 12,499 |
| Samsung Galaxy A05S | 6.7" | 90HZ | 4GB RAM + 128GB ROM | KSh 14,899 |
| Samsung GALAXY A15 | 6.5'' HD+ | 8GB RAM + 256GB ROM | DUAL SIM | KSh 24,999 |
| Samsung GALAXY A15 | 6.5'' HD+ | 8GB RAM + 256GB ROM | DUAL SIM | KSh 23,998 |
| Samsung Galaxy A15 | 6.5" | 128GB + 4GB RAM (Dual SIM) | 5000mAh | KSh 16,599 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh - Blue | KSh 18,550 |
| Samsung GALAXY A15 | 6.5'' | 4GB RAM + 128GB ROM | DUAL SIM | KSh 16,799 |
| Samsung Galaxy A05 | 6.7'' 4GB RAM + 64GB ROM (Dual Sim) 50MP | 5000mAh - Black + Free Gifts | NA | KSh 12,699 |
| Samsung Galaxy A15 | 6.5''HD+ | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh | KSh 18,550 |
| Samsung GALAXY A05S | 6.7"PLS LCD | 90HZ | 4GB RAM/64GB ROM | KSh 13,990 |
| Samsung GALAXY A05 | 6.7 PLS LCD DISPLAY | 4GB RAM/64GB ROM | ANDROID 13 | KSh 12,299 |
| Samsung Galaxy A05s | Display 6.7" //128GB ROM + 4GB RAM //Dual SIM //5000mAh //50MP /Ksly +FREE PB+BT+O+R+W | NA | NA | KSh 16,199 |
| Samsung Galaxy A15 | 6.5" | 128GB + 6GB RAM (Dual SIM) | 5000mAh | KSh 18,599 |
| Samsung Galaxy A05s | 6.7" | 128GB + 4GB (Dual SIM) | 5000mAh | KSh 14,990 |
| Samsung Galaxy A15 | Disp 6.5" //128GB ROM + 4GB RAM //Dual SIM //5000mAh // 50MP Camera /Ksly +FREE BT SPEAKER+MW | NA | NA | KSh 18,299 |
| Samsung Galaxy A04e | 6.5" | 3GB RAM + 32GB ROM | 13MP | KSh 10,790 |
| Samsung Galaxy A05S | 6.7" | 90HZ | 4GB RAM + 64GB ROM | KSh 12,999 |
| Samsung Galaxy A15 | 6.5" | 256GB + 8GB RAM (Dual SIM) | 5000mAh | KSh 24,500 |
| Samsung Galaxy A15 | 6.5'' HD+ | 4GB RAM + 128GB ROM | DUAL SIM | KSh 17,699 |
| Samsung Galaxy A15 | 6.5'' Display | 6GB RAM + 128GB ROM (Dual Sim) 50MP | 5000mAh+ASDE | KSh 19,899 |
| Samsung Galaxy S24 Ultra Dual SIM - 12GB RAM - 512GB - 5G - Black | NA | NA | NA | KSh 118,150 |
| Samsung Galaxy A15 | 6.5'' HD+ | 4GB RAM + 128GB ROM | DUAL SIM | KSh 17,700 |
| Samsung GALAXY A15 | 6.5'' | 8GB RAM + 256GB ROM (DUAL SIM) 50MP CAMERA | 5000mAh - Blue + FREEBIES | KSh 24,999 |
| Samsung Galaxy A04e | 6.5" | 3GB RAM + 32GB ROM | 13MP | KSh 11,699 |
| Samsung Galaxy S24 Ultra 5G 512gb | NA | NA | NA | KSh 150,000 - KSh 160,000 |
| Samsung Galaxy A05s | Display 6.7" //128GB ROM + 4GB RAM //Dual SIM //5000mAh //50MP /Ksly -B | NA | NA | KSh 15,299 |
| Samsung Galaxy A15 | 6.5'' HD+ | 4GB RAM + 128GB ROM | DUAL SIM | KSh 17,799 |
| Samsung Galaxy A15 | 6.5" | 128GB + 4GB RAM (Dual SIM) | 5000mAh | KSh 16,599 |
| Samsung Galaxy A15 | 6.5" | 128GB + 6GB RAM (Dual SIM) | 5000mAh | KSh 19,399 |
| Samsung Galaxy A25 5G | 6.5'' 6GB RAM + 128GB ROM | 50MP (Dual Sim)- Brave Black + Smart Watch & Power Bank | NA | KSh 27,299 |
| Samsung GALAXY A15 | 6.5'' | 4GB RAM + 128GB ROM | DUAL SIM | KSh 17,499 |