Mountain-data-scraping

Isha Doshi

2022-10-28

**Parsing the list of mountains from Wikipedia**

**Loaded the Wikipedia list of mountains by height**

library(rvest)  
library(tidyverse)

## ── Attaching packages ─────────────────────────────────────── tidyverse 1.3.2 ──  
## ✔ ggplot2 3.3.6 ✔ purrr 0.3.5   
## ✔ tibble 3.1.8 ✔ dplyr 1.0.10  
## ✔ tidyr 1.2.1 ✔ stringr 1.4.1   
## ✔ readr 2.1.3 ✔ forcats 0.5.2   
## ── Conflicts ────────────────────────────────────────── tidyverse\_conflicts() ──  
## ✖ dplyr::filter() masks stats::filter()  
## ✖ readr::guess\_encoding() masks rvest::guess\_encoding()  
## ✖ dplyr::lag() masks stats::lag()

page = read\_html("https://en.wikipedia.org/wiki/List\_of\_mountains\_by\_elevation")  
page

## {html\_document}  
## <html class="client-nojs vector-feature-language-in-header-enabled vector-feature-language-in-main-page-header-disabled vector-feature-sticky-header-disabled vector-feature-page-tools-pinned-disabled vector-feature-toc-pinned-enabled vector-feature-main-menu-pinned-disabled vector-feature-limited-width-enabled vector-feature-limited-width-content-enabled vector-feature-zebra-design-disabled" lang="en" dir="ltr">  
## [1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8 ...  
## [2] <body class="skin-vector skin-vector-search-vue mediawiki ltr sitedir-ltr ...

**Found all the tables there in the html - 9 tables**

page %>%  
 html\_nodes("table")

## {xml\_nodeset (9)}  
## [1] <table class="wikitable sortable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [2] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [3] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [4] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [5] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [6] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [7] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [8] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...  
## [9] <table class="sortable wikitable"><tbody>\n<tr>\n<th>Mountain</th>\n<th>M ...

**Found the table headers, and determined which columns are mountain names, heights, and where are the links to the individual mountain pages.**

page %>%  
 html\_nodes("table") %>%  
 html\_elements("th")

## {xml\_nodeset (40)}  
## [1] <th>Mountain</th>  
## [2] <th>Metres</th>  
## [3] <th>Feet</th>  
## [4] <th>Range</th>  
## [5] <th>Location and Notes\n</th>  
## [6] <th>Mountain</th>  
## [7] <th>Metres</th>  
## [8] <th>Feet</th>  
## [9] <th>Range</th>  
## [10] <th>Location and Notes\n</th>  
## [11] <th>Mountain</th>  
## [12] <th>Metres</th>  
## [13] <th>Feet</th>  
## [14] <th>Location and Notes\n</th>  
## [15] <th>Mountain</th>  
## [16] <th>Metres</th>  
## [17] <th>Feet</th>  
## [18] <th>Range</th>  
## [19] <th>Location and Notes\n</th>  
## [20] <th>Mountain</th>  
## ...

page %>%  
 html\_nodes("table") %>%  
 html\_elements("td")

## {xml\_nodeset (6802)}  
## [1] <td><a href="/wiki/Mount\_Everest" title="Mount Everest">Mount Everest</a ...  
## [2] <td>8,848</td>  
## [3] <td>29,029</td>  
## [4] <td>Himalayas  </td>  
## [5] <td>\n<a href="/wiki/Geography\_of\_Nepal" title="Geography of Nepal">Nepa ...  
## [6] <td><a href="/wiki/K2" title="K2">K2</a></td>  
## [7] <td>8,611</td>  
## [8] <td>28,251</td>  
## [9] <td>Karakoram  </td>  
## [10] <td>Pakistan/China\n</td>  
## [11] <td><a href="/wiki/Kangchenjunga" title="Kangchenjunga">Kangchenjunga</a ...  
## [12] <td>8,586</td>  
## [13] <td>28,169</td>  
## [14] <td>Himalayas  </td>  
## [15] <td>Nepal/India\n</td>  
## [16] <td><a href="/wiki/Lhotse" title="Lhotse">Lhotse</a></td>  
## [17] <td>8,516</td>  
## [18] <td>27,940</td>  
## [19] <td>Himalayas  </td>  
## [20] <td>Nepal<small> – Climbers ascend Lhotse Face in climbing Everest</smal ...  
## ...

# by comparing th and td we can see that column "Mountain" has mountain name, "Metres" and "Feet" have heights and links to the mountain pages are present in "Mountain" column.

**Created a data frame that contains names and heights of the mountains above 6800m, and the links to the corresponding Wikipedia pages.**

library(dplyr)  
library(rvest)  
library(tidyverse)  
library (plyr)

## ------------------------------------------------------------------------------

## You have loaded plyr after dplyr - this is likely to cause problems.  
## If you need functions from both plyr and dplyr, please load plyr first, then dplyr:  
## library(plyr); library(dplyr)

## ------------------------------------------------------------------------------

##   
## Attaching package: 'plyr'

## The following objects are masked from 'package:dplyr':  
##   
## arrange, count, desc, failwith, id, mutate, rename, summarise,  
## summarize

## The following object is masked from 'package:purrr':  
##   
## compact

library(xml2)  
tbls\_ls <- page %>%  
 html\_nodes("table") %>%  
 .[1:3] %>%  
 html\_table(fill = TRUE)   
mountainsDf=bind\_rows(tbls\_ls)  
  
links= page%>%  
 html\_nodes("table") %>%  
 html\_nodes("tr") %>%  
 html\_nodes(xpath="//td[1]//a[1]") %>%  
 html\_attr("href")%>%  
 head(175)  
  
mountainsDf$Metres <- as.numeric(gsub(",","",mountainsDf$Metres))  
mountainsDf <- mountainsDf[mountainsDf$Metres>6800,]  
final=cbind(mountainsDf,links)  
finalDf=final%>%select(Mountain,Metres,Feet, links)  
  
head(finalDf,5)

## Mountain Metres Feet links  
## 1 Mount Everest 8848 29,029 /wiki/Mount\_Everest  
## 2 K2 8611 28,251 /wiki/K2  
## 3 Kangchenjunga 8586 28,169 /wiki/Kangchenjunga  
## 4 Lhotse 8516 27,940 /wiki/Lhotse  
## 5 Makalu 8485 27,838 /wiki/Makalu

nrow(finalDf)

## [1] 175

**Printing a small sample of my data frame to see that it looks reasonable.**

head(finalDf,5)

## Mountain Metres Feet links  
## 1 Mount Everest 8848 29,029 /wiki/Mount\_Everest  
## 2 K2 8611 28,251 /wiki/K2  
## 3 Kangchenjunga 8586 28,169 /wiki/Kangchenjunga  
## 4 Lhotse 8516 27,940 /wiki/Lhotse  
## 5 Makalu 8485 27,838 /wiki/Makalu

**Wrote a function that converts the longitude/latitude string to degrees (positive and negative).**

longitudeAndLatitude <- function(ddmmssDD)  
{  
D <- if(grepl("[WS]", ddmmssDD)) -1 else 1  
dms <- strsplit(ddmmssDD, "°|'|″|′|N|E")  
if(length(dms[[1]])==4){  
dd=as.numeric(dms[[1]][1])  
mm=as.numeric(dms[[1]][2])  
ss=as.numeric(dms[[1]][3])  
return((dd + mm/60 + ss/3600) \*D)  
}  
else {  
dd=as.numeric(dms[[1]][1])  
mm=as.numeric(dms[[1]][2])  
return((dd + mm/60) \*D)  
}  
}  
ans=longitudeAndLatitude("76°38′E")  
ans

## [1] 76.63333

**Wrote another function that takes link as an argument and loads the mountain’s html page and extracts latitude and longitude.**

getlatlong=function(link){  
   
 url=paste("https://en.wikipedia.org",link, sep = "")  
 page=try(read\_html(url),silent=TRUE)  
 if (inherits (page, "try-error"))  
 return (NULL)  
   
 latitude=page%>%  
 html\_element(xpath="//span[@class='latitude']")%>%  
 html\_text()  
   
 longitude=page%>%  
 html\_element(xpath="//span[@class='longitude']")%>%  
 html\_text()  
 return(c(latitude,longitude))  
}

**Looped over the table of mountains I made above, downloaded the mountain data, and extracted the coordinates. Stored these into the same data frame.**

latitudes=c();  
 longitudes=c();  
for(i in finalDf$links)  
{  
 ll=getlatlong(i)  
 latitudes<-append(latitudes,(longitudeAndLatitude(ll[1])))  
 longitudes<-append(longitudes,(longitudeAndLatitude(ll[2])))  
}  
finalDf$Latitudes<-latitudes  
finalDf$Longitudes<-longitudes  
finalDf

## Mountain Metres Feet  
## 1 Mount Everest 8848 29,029  
## 2 K2 8611 28,251  
## 3 Kangchenjunga 8586 28,169  
## 4 Lhotse 8516 27,940  
## 5 Makalu 8485 27,838  
## 6 Cho Oyu 8188 26,864  
## 7 Dhaulagiri 8167 26,795  
## 8 Manaslu 8163 26,781  
## 9 Nanga Parbat 8126 26,660  
## 10 Annapurna 8091 26,545  
## 11 Gasherbrum I (Hidden peak; K5) 8080 26,509  
## 12 Broad Peak 8051 26,414  
## 13 Gasherbrum II (K4) 8035 26,362  
## 14 Shishapangma 8027 26,335  
## 15 Gasherbrum III 7952 26,089  
## 16 Gyachung Kang 7952 26,089  
## 17 Annapurna II 7937 26,040  
## 18 Gasherbrum IV (K3) 7932 26,024  
## 19 Himalchuli 7893 25,896  
## 20 Distaghil Sar 7885 25,869  
## 21 Ngadi Chuli 7871 25,823  
## 22 Nuptse 7861 25,791  
## 23 Khunyang Chhish 7852 25,761  
## 24 Masherbrum (K1) 7821 25,659  
## 25 Nanda Devi 7816 25,643  
## 26 Chomo Lonzo 7804 25,604  
## 27 Batura Sar 7795 25,574  
## 28 Kanjut Sar 7790 25,558  
## 29 Rakaposhi 7788 25,551  
## 30 Namcha Barwa 7782 25,531  
## 31 Batura II 7762 25,466  
## 32 Kamet 7756 25,446  
## 33 Saltoro Kangri 7742 25,400  
## 34 Batura III 7729 25,358  
## 35 Jannu 7710 25,295  
## 36 Tirich Mir 7708 25,289  
## 37 Molamenqing 7703 25,272  
## 38 Gurla Mandhata 7694 25,243  
## 39 Saser Kangri 7672 25,171  
## 40 Chogolisa 7665 25,148  
## 41 Kongur Tagh 7649 25,095  
## 42 Shispare 7611 24,970  
## 43 Silberzacken 7597 24,925  
## 44 Changtse 7583 24,879  
## 45 Trivor 7577 24,859  
## 46 Gangkhar Puensum 7570 24,836  
## 47 Gongga Shan 7556 24,790  
## 48 Annapurna III 7555 24,787  
## 49 Kula Kangri 7554 24,783  
## 50 Skyang Kangri 7545 24,754  
## 51 Liankang Kangri 7535 24,721  
## 52 Yukshin Gardan Sar 7530 24,705  
## 53 Annapurna IV 7525 24,688  
## 54 Saser Kangri II 7518 24,665  
## 55 Mamostong Kangri 7516 24,659  
## 56 Muztagh Ata 7509 24,636  
## 57 Ismoil Somoni Peak 7495 24,590  
## 58 Saser Kangri III 7495 24,590  
## 59 Noshaq 7492 24,580  
## 60 Pumari Chhish 7492 24,580  
## 61 Passu Sar 7476 24,528  
## 62 Jongsong Peak 7462 24,482  
## 63 Malubiting 7458 24,469  
## 64 Gangapurna 7455 24,459  
## 65 Muchu Chhish (Batura V) 7453 24,452  
## 66 Jengish Chokusu 7439 24,406  
## 67 K12 7428 24,370  
## 68 Sia Kangri 7422 24,350  
## 69 Momhil Sar 7414 24,324  
## 70 Istor-o-Nal 7403 24,288  
## 71 Ghent Kangri 7401 24,281  
## 72 Haramosh Peak 7397 24,268  
## 73 Kabru 7394 24,259  
## 74 Ultar 7388 24,239  
## 75 Rimo I 7385 24,229  
## 76 Sherpi Kangri 7380 24,213  
## 77 Churen Himal 7371 24,183  
## 78 Labuche Kang 7367 24,170  
## 79 Kirat Chuli 7365 24,163  
## 80 Skil Brum 7360 24,147  
## 81 Abi Gamin 7355 24,131  
## 82 Gimmigela Chuli 7350 24,114  
## 83 Saraghrar 7340 24,081  
## 84 Bojohagur Duanasir 7329 24,045  
## 85 Chamlang 7319 24,012  
## 86 Chongtar Kangri 7315 23,999  
## 87 Jomolhari / Chomolhari 7314 23,996  
## 88 Baltoro Kangri 7312 23,990  
## 89 Siguang Ri 7308 23,976  
## 90 Summa Ri 7302 23,957  
## 91 The Crown 7295 23,934  
## 92 Gyala Peri 7294 23,930  
## 93 Porong Ri 7292 23,924  
## 94 Baintha Brakk 7285 23,901  
## 95 Yutmaru Sar 7283 23,894  
## 96 K6 7282 23,891  
## 97 Kangpenqing 7281 23,888  
## 98 Mana Peak 7272 23,858  
## 99 Muztagh Tower 7273 23,862  
## 100 Diran 7257 23,809  
## 101 Apsarasas Kangri 7245 23,770  
## 102 Langtang Lirung 7227 23,711  
## 103 Karjiang 7221 23,691  
## 104 Annapurna South 7219 23,684  
## 105 Khartaphu 7213 23,665  
## 106 Tongshanjiabu 7207 23,645  
## 107 Langtang Ri 7205 23,638  
## 108 Kangphu Kang 7204 23,635  
## 109 Singhi Kangri 7202 23,629  
## 110 Lupghar Sar 7200 23,622  
## 111 Gurja Himal 7193 23,599  
## 112 Melungtse 7181 23,560  
## 113 Liushi Shan 7167 23,514  
## 114 Baruntse 7162 23,497  
## 115 Pumori 7161 23,494  
## 116 Hardeol 7151 23,461  
## 117 Gasherbrum V 7147 23,448  
## 118 Latok I 7145 23,442  
## 119 Nemjung 7140 23,425  
## 120 Udren Zom 7140 23,425  
## 121 Chaukhamba 7138 23,419  
## 122 Nun Kun 7135 23,409  
## 123 Tilicho Peak 7134 23,406  
## 124 Gauri Sankar 7134 23,406  
## 125 Lenin Peak 7134 23,406  
## 126 Bularung Sar 7134 23,406  
## 127 Api 7132 23,399  
## 128 Teri Kang 7124 23,373  
## 129 Pauhunri 7128 23,386  
## 130 Trisul 7120 23,360  
## 131 Korzhenevskaya 7105 23,310  
## 132 Lunpo Gangri 7095 23,278  
## 133 Satopanth 7075 23,212  
## 134 Tirsuli 7074 23,209  
## 135 Dunagiri 7066 23,182  
## 136 Kangto 7060 23,163  
## 137 Nyegyi Kansang 7047 23,120  
## 138 Chomolhari Kang 7046 23,117  
## 139 Salasungo 7043 23,107  
## 140 Link Sar 7041 23,100  
## 141 Kezhen Peak 7038 23,091  
## 142 Shah Dhar 7038 23,091  
## 143 Saipal 7031 23,068  
## 144 Padmanabh 7030 23,064  
## 145 Spantik 7027 23,054  
## 146 Khan Tengri 7010 22,999  
## 147 Machapuchare 6993 22,943  
## 148 Laila Peak (Haramosh Valley) 6985 22,917  
## 149 Kang Guru 6981 22,904  
## 150 Gasherbrum VI 6979 22,897  
## 151 Karun Kuh 6977 22,890  
## 152 Avicenna Peak 6974 22,881  
## 153 Ulugh Muztagh 6973 22,877  
## 154 Aconcagua 6961 22,838  
## 155 Sangemarmar Sar 6949 22,799  
## 156 Kedarnath (mountain) 6940 22,769  
## 157 K7 6934 22,749  
## 158 Panchchuli 6904 22,651  
## 159 Thalay Sagar 6904 22,651  
## 160 Lunkho e Dosare 6901 22,641  
## 161 Lunag Ri 6895 22,621  
## 162 Ojos del Salado 6891 22,608  
## 163 Siniolchu 6888 22,598  
## 164 Kanjiroba 6883 22,582  
## 165 Bairiga 6882 22,579  
## 166 Koyo Zom 6872 22,546  
## 167 Nanda Kot 6861 22,510  
## 168 Kubi Gangri 6859 22,503  
## 169 Angel Sar 6858 22,500  
## 170 Bhagirathi Parbat I 6856 22,493  
## 171 Jethi Bahurani 6850 22,474  
## 172 Chongra Peak 6830 22,408  
## 173 Chomo Yummo 6829 22,405  
## 174 Reo Purgyil 6816 22,362  
## 175 Ama Dablam 6812 22,349  
## links Latitudes Longitudes  
## 1 /wiki/Mount\_Everest 27.98806 86.92528  
## 2 /wiki/K2 35.88250 76.51333  
## 3 /wiki/Kangchenjunga 27.70250 88.14667  
## 4 /wiki/Lhotse 27.96167 86.93333  
## 5 /wiki/Makalu 27.88972 87.08889  
## 6 /wiki/Cho\_Oyu 28.09417 86.66083  
## 7 /wiki/Dhaulagiri 28.69833 83.48750  
## 8 /wiki/Manaslu 28.54944 84.56194  
## 9 /wiki/Nanga\_Parbat 35.23750 74.58917  
## 10 /wiki/Annapurna 28.59611 83.82028  
## 11 /wiki/Gasherbrum\_I 35.72444 76.69639  
## 12 /wiki/Broad\_Peak 35.81167 76.56500  
## 13 /wiki/Gasherbrum\_II 35.75833 76.65333  
## 14 /wiki/Shishapangma 28.35222 85.77972  
## 15 /wiki/Gasherbrum\_III 35.73333 76.63333  
## 16 /wiki/Gyachung\_Kang 28.09806 86.74222  
## 17 /wiki/Annapurna 28.59611 83.82028  
## 18 /wiki/Gasherbrum\_IV 35.75833 76.61667  
## 19 /wiki/Himalchuli 28.43417 84.63750  
## 20 /wiki/Distaghil\_Sar 36.32583 75.18833  
## 21 /wiki/Ngadi\_Chuli 28.50333 84.56750  
## 22 /wiki/Nuptse 27.96639 86.89000  
## 23 /wiki/Khunyang\_Chhish 36.20528 75.20778  
## 24 /wiki/Masherbrum 35.64000 76.30583  
## 25 /wiki/Nanda\_Devi 30.37583 79.97083  
## 26 /wiki/Chomo\_Lonzo 27.93000 87.10806  
## 27 /wiki/Batura\_Sar 36.51000 74.52250  
## 28 /wiki/Kanjut\_Sar 36.20500 75.41833  
## 29 /wiki/Rakaposhi 36.14250 74.48917  
## 30 /wiki/Namcha\_Barwa 29.62917 95.05583  
## 31 /wiki/Batura\_II 36.51889 74.50806  
## 32 /wiki/Kamet 30.92000 79.59167  
## 33 /wiki/Saltoro\_Kangri 35.39933 76.84867  
## 34 /wiki/Batura\_III 36.53083 74.50139  
## 35 /wiki/Jannu 27.68278 88.04583  
## 36 /wiki/Tirich\_Mir 36.25417 71.84333  
## 37 /wiki/Molamenqing 28.35472 85.81083  
## 38 /wiki/Gurla\_Mandhata 30.43583 81.29583  
## 39 /wiki/Saser\_Kangri 34.86500 77.75250  
## 40 /wiki/Chogolisa 35.61417 76.57917  
## 41 /wiki/Kongur\_Tagh 38.59417 75.31333  
## 42 /wiki/Shispare 36.44000 74.68167  
## 43 /wiki/Silberzacken 35.26333 74.60778  
## 44 /wiki/Changtse 28.02528 86.91417  
## 45 /wiki/Trivor 36.28750 75.08611  
## 46 /wiki/Gangkhar\_Puensum 28.04833 90.45417  
## 47 /wiki/Gongga\_Shan 29.59583 101.87917  
## 48 /wiki/Annapurna 28.59611 83.82028  
## 49 /wiki/Kula\_Kangri 28.22750 90.61667  
## 50 /wiki/Skyang\_Kangri 35.92639 76.56750  
## 51 /wiki/Liankang\_Kangri 28.06389 90.44306  
## 52 /wiki/Yukshin\_Gardan\_Sar 36.25000 75.37500  
## 53 /wiki/Annapurna 28.59611 83.82028  
## 54 /wiki/Saser\_Kangri\_II 34.86500 77.75250  
## 55 /wiki/Mamostong\_Kangri 35.14083 77.57750  
## 56 /wiki/Muztagh\_Ata 38.27833 75.11583  
## 57 /wiki/Ismoil\_Somoni\_Peak 38.94333 72.01611  
## 58 /wiki/Saser\_Kangri\_III 34.86500 77.75250  
## 59 /wiki/Noshaq 36.43167 71.82833  
## 60 /wiki/Pumari\_Chhish 36.21111 75.25278  
## 61 /wiki/Passu\_Sar 36.48778 74.58778  
## 62 /wiki/Jongsong\_Peak 27.88333 88.13333  
## 63 /wiki/Malubiting 36.03889 74.90083  
## 64 /wiki/Gangapurna 28.60500 83.96333  
## 65 /wiki/Muchu\_Chhish 36.50222 74.55556  
## 66 /wiki/Jengish\_Chokusu 42.03750 80.12500  
## 67 /wiki/K12\_(mountain) 35.29500 77.02167  
## 68 /wiki/Sia\_Kangri 35.65806 76.77611  
## 69 /wiki/Momhil\_Sar 36.31944 75.03500  
## 70 /wiki/Istor-o-Nal 36.38694 71.88917  
## 71 /wiki/Ghent\_Kangri 35.52750 76.81083  
## 72 /wiki/Haramosh\_Peak 35.84000 74.89750  
## 73 /wiki/Kabru 27.63500 88.11833  
## 74 /wiki/Ultar 36.39972 74.69194  
## 75 /wiki/Rimo\_I 35.35583 77.36806  
## 76 /wiki/Sherpi\_Kangri 35.46639 76.78194  
## 77 /wiki/Churen\_Himal 28.73194 83.21000  
## 78 /wiki/Labuche\_Kang 28.30417 86.35083  
## 79 /wiki/Kirat\_Chuli 27.78333 88.20000  
## 80 /wiki/Skil\_Brum 35.85000 76.41667  
## 81 /wiki/Abi\_Gamin 30.93306 79.60250  
## 82 /wiki/Gimmigela\_Chuli 27.73333 88.15000  
## 83 /wiki/Saraghrar 36.54750 72.11667  
## 84 /wiki/Bojohagur\_Duanasir 36.39972 74.69194  
## 85 /wiki/Chamlang 27.77556 86.97972  
## 86 /wiki/Chongtar\_Kangri 35.91944 76.42306  
## 87 /wiki/Mount\_Jomolhari 27.82417 89.27000  
## 88 /wiki/Baltoro\_Kangri 35.64583 76.66556  
## 89 /wiki/Siguang\_Ri 28.15000 86.68333  
## 90 /wiki/Summa\_Ri 35.86444 76.45056  
## 91 /wiki/The\_Crown\_(mountain) 36.10833 76.21250  
## 92 /wiki/Gyala\_Peri 29.81417 94.96833  
## 93 /wiki/Porong\_Ri 28.38694 85.71861  
## 94 /wiki/Baintha\_Brakk 35.94778 75.75361  
## 95 /wiki/Yutmaru\_Sar 36.23333 75.36667  
## 96 /wiki/K6\_(mountain) 35.42000 76.55000  
## 97 /wiki/Kangpenqing 28.55000 85.55000  
## 98 /wiki/Kamet 30.92000 79.59167  
## 99 /wiki/Muztagh\_Tower 35.82667 76.36167  
## 100 /wiki/Diran 36.11667 74.66667  
## 101 /wiki/Apsarasas\_Kangri 35.53833 77.14833  
## 102 /wiki/Langtang\_Lirung 28.25750 85.51583  
## 103 /wiki/Karjiang 28.25806 90.64722  
## 104 /wiki/Annapurna 28.59611 83.82028  
## 105 /wiki/Khartaphu 28.06333 86.97667  
## 106 /wiki/Tongshanjiabu 28.18667 89.95750  
## 107 /wiki/Langtang\_Ri 28.38139 85.68361  
## 108 /wiki/Kangphu\_Kang 28.15667 90.07083  
## 109 /wiki/Singhi\_Kangri 35.59972 76.98361  
## 110 /wiki/Lupghar\_Sar 36.34833 75.02583  
## 111 /wiki/Gurja\_Himal 28.66694 83.30028  
## 112 /wiki/Melungtse 27.97250 86.43167  
## 113 /wiki/Liushi\_Shan 35.31583 80.91583  
## 114 /wiki/Baruntse 27.87167 86.98000  
## 115 /wiki/Pumori 28.01472 86.82806  
## 116 /wiki/Hardeol 30.56000 80.01000  
## 117 /wiki/Gasherbrum\_V 35.73333 76.61667  
## 118 /wiki/Latok 35.92806 75.82250  
## 119 /wiki/Nemjung 28.73500 84.41667  
## 120 /wiki/Udren\_Zom 36.53611 71.98694  
## 121 /wiki/Chaukhamba 30.74972 79.29111  
## 122 /wiki/Nun\_Kun 33.98000 76.02167  
## 123 /wiki/Tilicho\_Peak 28.68444 83.80444  
## 124 /wiki/Gauri\_Sankar 27.95333 86.33583  
## 125 /wiki/Lenin\_Peak 39.34250 72.87750  
## 126 /wiki/Bularung\_Sar 36.30194 75.13500  
## 127 /wiki/Api\_(mountain) 30.00417 80.93333  
## 128 /wiki/Teri\_Kang 28.17194 89.94222  
## 129 /wiki/Pauhunri 27.95333 88.84250  
## 130 /wiki/Trisul 30.31278 79.77722  
## 131 /wiki/Peak\_Korzhenevskaya 39.05750 72.00833  
## 132 /wiki/Lunpo\_Gangri 29.83333 84.61333  
## 133 /wiki/Satopanth 30.84111 79.21361  
## 134 /wiki/Tirsuli 30.58000 80.02000  
## 135 /wiki/Dunagiri\_(mountain) 30.53250 79.83389  
## 136 /wiki/Kangto 27.86500 92.53250  
## 137 /wiki/Nyegyi\_Kansang 27.93667 92.66667  
## 138 /wiki/Chomolhari\_Kang 28.16468 90.18250  
## 139 /wiki/Salasungo 28.33500 85.12167  
## 140 /wiki/Link\_Sar 35.45111 76.59417  
## 141 /wiki/Kezhen\_Peak 35.92500 76.17500  
## 142 /wiki/Shah\_Dhar 36.67167 72.23167  
## 143 /wiki/Saipal 29.89083 81.49500  
## 144 /wiki/Padmanabh 35.44111 77.18278  
## 145 /wiki/Spantik 36.05732 74.95798  
## 146 /wiki/Khan\_Tengri 42.21083 80.17500  
## 147 /wiki/Machapuchare 28.49500 83.94917  
## 148 /wiki/Laila\_Peak\_(Haramosh\_Valley) 35.95581 74.94574  
## 149 /wiki/Kang\_Guru 28.65750 84.30139  
## 150 /wiki/Gasherbrum\_VI 35.70861 76.63139  
## 151 /wiki/Karun\_Kuh 36.61000 75.08083  
## 152 /wiki/Avicenna\_Peak 39.34250 72.87750  
## 153 /wiki/Ulugh\_Muztagh 36.41250 87.38500  
## 154 /wiki/Aconcagua -32.65320 -70.01120  
## 155 /wiki/Sangemarmar\_Sar 36.42528 74.56056  
## 156 /wiki/Kedarnath\_(mountain) 30.79500 79.06944  
## 157 /wiki/K7\_(mountain) NA NA  
## 158 /wiki/Panchchuli 30.21417 80.42750  
## 159 /wiki/Thalay\_Sagar 30.85806 78.99722  
## 160 /wiki/Lunkho\_e\_Dosare 36.77583 72.44000  
## 161 /wiki/Lunag\_Ri 28.05306 86.55167  
## 162 /wiki/Ojos\_del\_Salado -27.10889 -68.54111  
## 163 /wiki/Siniolchu 27.71139 88.31778  
## 164 /wiki/Kanjiroba 29.37833 82.63917  
## 165 /wiki/Bairiga 29.16583 96.72417  
## 166 /wiki/Koyo\_Zom 36.72250 73.23806  
## 167 /wiki/Nanda\_Kot 30.28167 80.06833  
## 168 /wiki/Kubi\_Gangri 29.76583 82.75167  
## 169 /wiki/Angel\_Sar 35.84917 76.49056  
## 170 /wiki/Bhagirathi\_Parbat\_I 30.84972 79.14667  
## 171 /wiki/Jethi\_Bahurani 29.88333 81.04083  
## 172 /wiki/Chongra\_Peak 35.32628 74.67763  
## 173 /wiki/Chomo\_Yummo 28.03361 88.54500  
## 174 /wiki/Reo\_Purgyil 31.88389 78.73139  
## 175 /wiki/Ama\_Dablam 27.86111 86.86111

**Printing a sample of the dataframe and check that it looks good.**

head(finalDf,10)

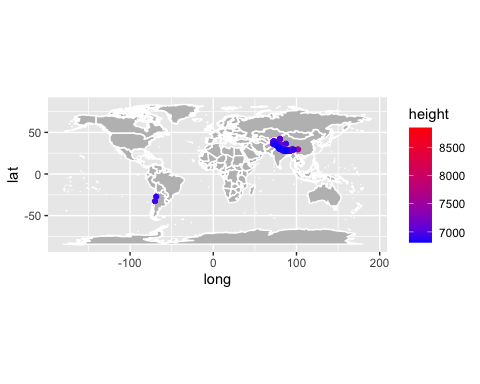
## Mountain Metres Feet links Latitudes Longitudes  
## 1 Mount Everest 8848 29,029 /wiki/Mount\_Everest 27.98806 86.92528  
## 2 K2 8611 28,251 /wiki/K2 35.88250 76.51333  
## 3 Kangchenjunga 8586 28,169 /wiki/Kangchenjunga 27.70250 88.14667  
## 4 Lhotse 8516 27,940 /wiki/Lhotse 27.96167 86.93333  
## 5 Makalu 8485 27,838 /wiki/Makalu 27.88972 87.08889  
## 6 Cho Oyu 8188 26,864 /wiki/Cho\_Oyu 28.09417 86.66083  
## 7 Dhaulagiri 8167 26,795 /wiki/Dhaulagiri 28.69833 83.48750  
## 8 Manaslu 8163 26,781 /wiki/Manaslu 28.54944 84.56194  
## 9 Nanga Parbat 8126 26,660 /wiki/Nanga\_Parbat 35.23750 74.58917  
## 10 Annapurna 8091 26,545 /wiki/Annapurna 28.59611 83.82028

nrow(finalDf)

## [1] 175

**Plotting all the mountains on a world map. Colored them according to their height.**

library(ggplot2)  
  
# Create a data frame with mountain data and coordinates  
data <- data.frame(  
 Mountain = finalDf$Mountain,  
 longitude = finalDf$Longitudes,  
 latitude = finalDf$Latitudes,  
 height = finalDf$Metres  
)  
  
# Remove rows with missing values  
data <- na.omit(data)  
  
# Load world map data  
world <- map\_data("world")  
  
# Plot the world map with mountains  
MountainsMap <- ggplot(world) +  
 geom\_polygon(aes(long, lat, group = group), col = "white", fill = "gray") +  
 geom\_point(data = data, aes(longitude, latitude, colour = height)) +  
 coord\_quickmap() +  
 scale\_color\_gradient(low = "blue", high = "red")  
  
MountainsMap



**Most of the tallest mountains are located near India, Nepal, Tibet, Bhutan, Pakistan and China. There are two near Argentina and Chile.**