

parte1

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R Markdown

Parte 1 del trabajo de R

Esta función se encarga que dado la URL de la pagina del codigo penal leerla y devolver el texto de esta

```
#Funcion para cargar la pagina web del codigo penal
cargar_texto<-function(){
  #URL de la pagina del codigo penal
  URL_codigo_penal<-"https://www.conceptosjuridicos.com/codigo-penal/"
  #Leemos la pagina del codigo penal
  codigo_penal_pagina <- paste(readLines(URL_codigo_penal),encoding = "UTF-8"),collapse="\n")
  return(codigo_penal_pagina)
}
```

Con la pagina ya cargada ahora tocara buscar los links en esta pagina para ello usamos esta función que con una pagina web dada devuelve todos los links de articulos de esta pagina web, ya sean bis o normal

```
#Funcion para dada una pagina web devolver todos los links de los articulos de esta
buscar_links_articulos<-function(pagina_web_codigo_penal){
  #Buscamos en la pagina todos los links
  library(stringr)
  #patron_solo_articulo<-"https://www.conceptosjuridicos.com/codigo-penal-articulo-[1-90]*/"
  patron<-"https://www.conceptosjuridicos.com/codigo-penal-articulo-[1-90]*[-[:alnum:]]*/"
  articulos <- str_extract_all(pagina_web_codigo_penal,patron)
  return(unlist(articulos))
}
```

Una vez en la pagina web del articulo en sí esta funcion se encarga de obtener la estructuracion del articulo, ya sea titulo, libro...

```
#Dada una pagina web de un articulo y la uri de esta devuelve la estructura del articulo
obtener_estructura<-function(URL_articulo,pagina_web_articulo){
  library(stringr)

  #Vemos el numero del articulo para ver como recoger la estructura
  numero_articulo <- str_extract(URL_articulo,'[0-9]+')

  #Inicializamos las variables para que luego se devuelva el mismo tipo de lista
  titulo_articulo<-"NA"
  libro_articulo<-"NA"
```

```

capitulo_articulo<-NA
seccion_articulo<-NA

#Vemos si el titulo es preliminar
if (nchar(numero_articulo)<2){
  titulo_articulo<-str_extract(pagina_web_articulo,"TÍTULO PRELIMINAR: [[:alnum:][:punct:]]*")
}else{
  #Sacamos el libro
  libro_articulo<-str_extract(pagina_web_articulo,"LIBRO [I]*")
  #Sacamos el titulo
  titulo_articulo<-str_extract(pagina_web_articulo,"T[ií]tulo [IV]*")

  #Sacamos el capitulo
  capitulo_articulo<-str_extract(pagina_web_articulo,"Cap[ií]tulo [IVX]*")

  #Sacamos la seccion si hay
  seccion_articulo<-str_extract(pagina_web_articulo,"Sección [IVX]*")
}

lista_resultado<-list(libro=libro_articulo,titulo=titulo_articulo,capitulo=capitulo_articulo,seccion=seccion_articulo)
return(lista_resultado)
}

```

Esta función es algo mas auxiliar porque debido a la gran cantidad de paginas web que tenemos que leer he decidido crear una nueva pagina funcion que se encarge de leer las web y obtener la estructura de estas

```

#Funcion que se encarga de los bucles repetidos
sacar_contenido<-function(inicio_f,final_f,articulos_f,tabla_articulos_f){
  for (articulo in (unlist(articulos_f)[inicio_f:final_f])){
    numero_articulo<-str_extract(articulo,'[0-9]+.*')
    pagina_web<-paste(readLines(articulo,encoding = "UTF-8"),collapse="\n")
    lista<-obtener_estructura(articulo,pagina_web)
    #texto<-paste(lista["libro"] ,lista["titulo"],lista["capitulo"],lista["seccion"],numero_articulo,sep="")
    #print(texto)

    nueva_fila <- data.frame(
      libro = lista["libro"],
      titulo = lista["titulo"],
      capitulo = lista["capitulo"],
      seccion = lista["seccion"],
      articulo = numero_articulo,
      url = articulo,
      stringsAsFactors = FALSE
    )

    tabla_articulos_f <- rbind(tabla_articulos_f, nueva_fila)
  }
  return(tabla_articulos_f)
}

```

Con la funciones de “trabajo” creadas esta ultima funcion se encarga de usarlas para leer la pagina web original, obtener las url y la estructuracion para luego crear un csv donde guarde el contenido

```

#Primera parte del trabajo
primera_parte<-function(){

  tabla_articulos <- data.frame(
    libro = character(),
    titulo = character(),
    capitulo = character(),
    seccion = character(),
    articulo = character(),
    url = character(),
    stringsAsFactors = FALSE
  )

  web<-cargar_texto()
  articulos<-buscar_links_articulos(web)

  #Llamamos a la funcion sacar_contenido en varias ocasiones para reducir el posible error causado por
#web
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(0,50,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(50,100,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(100,150,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(150,200,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(200,250,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(250,300,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(300,350,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(350,400,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(400,450,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(450,500,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(500,550,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(550,600,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(600,650,articulos,tabla_articulos))
  tabla_articulos <- rbind(tabla_articulos,sacar_contenido(650,708,articulos,tabla_articulos))

  #Guardo los datos en un csv
  write.csv(tabla_articulos, "tabla_articulos.csv", row.names = FALSE)
}

}

```

Ejecutamos la función de la primera parte y vemos que se ejecuta el print.

```

primera_parte()

## Warning in readLines(URL_codigo_penal, encoding = "UTF-8"): incomplete final
## line found on 'https://www.conceptosjuridicos.com/codigo-penal/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-1/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-2/'

```



```

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-127-sexies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-127-septies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-127-octies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-128/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-129/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-129-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-130/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-131/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-132/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-133/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-134/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-135/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-136/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-137/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-138/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-139/'

```



```
## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-152-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-153/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-154/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-155/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-156/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-156-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-156-ter/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-156-quater/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-156-quinquies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-157/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-158/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-159/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-160/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-161/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-162/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-163/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-164/'
```



```
## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-191/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-192/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-193/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-194/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-194-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-195/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-196/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-197/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-197-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-197-ter/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-197-quater/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-197-quinquies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-198/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-199/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-200/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-201/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-202/'
```



```
## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-251-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-252/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-253/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-254/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-255/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-256/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-257/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-258/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-258-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-258-ter/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-259/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-259-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-260/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-261/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-261-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-262/'
```



```
## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-358/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-358-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-359/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-360/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-361/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-362/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-362-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-362-ter/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-362-quater/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-362-quinquies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-362-sexies/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-363/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-364/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-365/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-366/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-367/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-368/'
```

```
## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-369/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-369-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-370/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-371/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-372/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-373/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-374/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-375/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-376/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-377/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-378/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-379/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-380/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-381/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-381-bis/'
```



```
## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-615-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-616/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-616-bis/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-616-ter/'

## Warning in readLines(articulo, encoding = "UTF-8"): incomplete final line found
## on 'https://www.conceptosjuridicos.com/codigo-penal-articulo-616-quater/'

print("Funciono")

## [1] "Funciono"
```