Assignment4

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Exercise 12.6.1 Problem 3 and Problem 4

3.I claimed that iso2 and iso3 were redundant with country. Confirm this claim.

```
### Check unique values in country,iso2,iso3
who %>% select(1:3) %>% sapply(function(x){length(unique(x))})
```

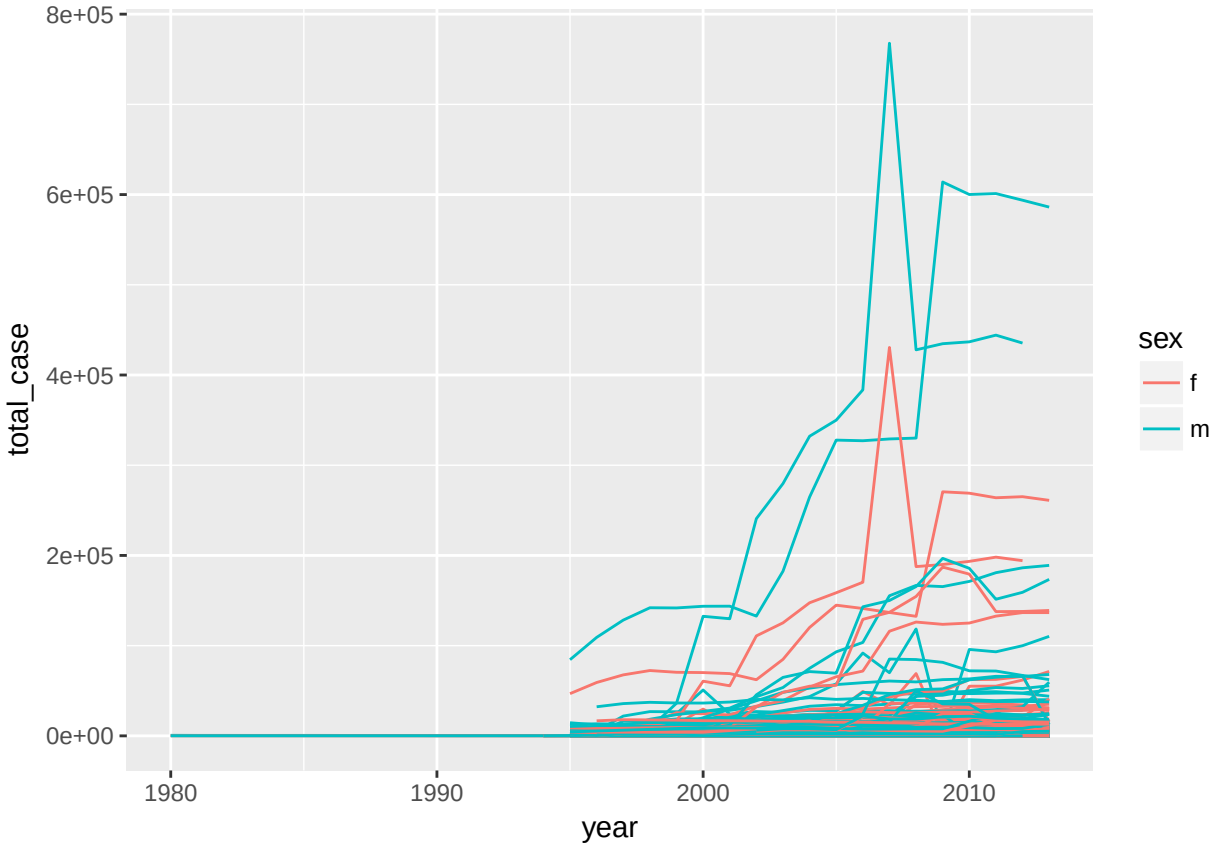
```
## country    iso2    iso3
##     219     219     219
```

```
### check the unique combination of these three columns
who %>% select(1:3) %>%
  unite(combined, 1:3) %>%
  select(combined) %>%
  distinct() %>%
  nrow()
```

```
## [1] 219
```

4.For each country, year, and sex compute the total number of cases of TB. Make an informative visualisation of the data

```
who %>%
  gather(code, value, new_sp_m014:newrel_f65, na.rm = TRUE) %>%
  mutate(code = stringr::str_replace(code, "newrel", "new_rel")) %>%
  separate(code, c("new", "var", "sexage")) %>%
  select(-new, -iso2, -iso3) %>%
  separate(sexage, c("sex", "age"), sep = 1) %>%
  group_by(country, year, sex) %>%
  summarize(total_case = sum(value)) %>%
  unite(country_sex, country, sex, remove = FALSE) %>%
  ggplot() +
  geom_line(mapping = aes(x = year, y = total_case, color = sex,
                          group = country_sex))
```



10.5 Exercise problem 5

5 What does tibble::enframe() do? When might you use it?

```
sample <- letters[1:10]
enframe(sample)
```

```
## # A tibble: 10 x 2
##     name value
##    <int> <chr>
##  1     1 a
##  2     2 b
##  3     3 c
##  4     4 d
##  5     5 e
##  6     6 f
##  7     7 g
##  8     8 h
##  9     9 i
## 10    10 j
```

```
### convert vectors to data frames, and vice versa.
```