\usepackage{fontspec} \usepackage{multirow} \usepackage{multicol} \usepackage{colortbl} \usepackage{hhline} \newlength\Oldarrayrulewidth \newlength\Oldtabcolsep \usepackage{longtable} \usepackage{array} \usepackage{hyperref} \usepackage{float} \usepackage{wrapfig}

Kyle Haynes

Flextable is a really nice and customisable R Package for outputting tables.

The following is an attempt to replicate the following tables produced here: https://www.qgso.qld.gov.au/statistics/theme/crime-justice/crime-justice-statistics/recorded-crime

```
        # Install required packages.
        # install.packages("flextable")
        # install.packages("magrittr")
        # install.packages("data.table")

        # Load required packages.
        library(flextable)
        library(magrittr)
        library(data.table)

        # Data...
        d <- fread("Unlawful entry,
40251,42170,35681,-15.4,796.8,821.2,683.9,-16.7
            Unlawful entry with intent - dwelling,
24548,25048,22344,-10.8,485.9,487.8,428.3,-12.2
            Without violence,
23849,24348,21641,-11.1,472.1,474.2,414.8,-12.5
            With violence,699,700,703,0.4,13.8,13.6,13.5,-1.2
            Unlawful entry with intent - shop,
2053,2400,2240,-6.7,40.6,46.7,42.9,-8.1
            Unlawful entry with intent - other,
13650,14722,11097,-24.6,270.2,286.7,212.7,-25.8
            Arson,1287,1430,1169,-18.3,25.5,27.8,22.4,-19.5
            Other property damage,
36689,36348,33282,-8.4,726.3,707.8,637.9,-9.9
            Unlawful use of motor vehicle,
14940,15975,14900,-6.7,295.7,311.1,285.6,-8.2
            Other theft,
129960,130790,103179,-21.1,2572.6,2547.0,1977.6,-22.4
            Stealing from dwellings,
8832,9044,6816,-24.6,174.8,176.1,130.6,-25.8
            Shop stealing,26380,27825,20818,-25.2,522.2,541.9,399.0,-26.4
            Vehicles,32890,33168,25041,-24.5,651.1,645.9,480.0,-25.7
            Other stealing,
61858,60753,50504,-16.9,1224.5,1183.1,968.0,-18.2
            Fraud,28994,30431,23424,-23.0,574.0,592.6,449.0,-24.2
```

```
            Fraud by computer,771,1312,885,-32.5,15.3,25.5,17.0,-33.6
            Fraud by cheque,121,116,74,-36.2,2.4,2.3,1.4,-37.2
            Fraud by credit card,
14628,14443,11272,-22.0,289.6,281.3,216.0,-23.2
            Identity fraud,2238,2446,1961,-19.8,44.3,47.6,37.6,-21.1
            Other fraud,11236,12114,9232,-23.8,222.4,235.9,176.9,-25.0
            Handling stolen goods,
6657,7684,5181,-32.6,131.8,149.6,99.3,-33.6
            Possess property suspected stolen,
3006,3346,2044,-38.9,59.5,65.2,39.2,-39.9
            Receiving stolen property,445,440,273,-38.0,8.8,8.6,5.2,-38.9
            Possess etc. tainted property,
3134,3816,2805,-26.5,62.0,74.3,53.8,-27.7
            Other handling stolen goods,72,82,59,-28.0,1.4,1.6,1.1,-29.2
            Total,258778,264828,216816,-18.1,5122.6,5157.3,4155.7,-19.4"
        )

        # Update column names.
        setnames(d, c("category", "num_18", "num_19", "num_20",
            "year_change_per", "rate_18", "rate_19", "rate_20",
            "rate_year_change_per"
            )
        )

        # Define some default colours.
        main_head_col <- "#DEC3A3"
        sub_head_col <- "#E8D2BA"
        primary_cat <- "#eeddcc"
        secondary_cat <- "#f5efe5"
        total_row_col <- main_head_col
        highlight_col <- "#BE955B"


        # Create the header.
        header <- data.table(
            col_keys = names(d),
            line2 = c("Offences against property", rep("Offences
reported", 4), rep("Offences reported per 100,000 persons", 4)),
            line3 = c("Offences against property", "2018-19", "2019-20 ",
"2020-21 ", "1-yr change 2019-20 to 2020-21", "2018-19 (for pre-
COVID comparison)", "2019-20(a) ", "2020-21 ", "1-yr change
2019-20 to 2020-21") ,
            line4 = c("Offence", rep("- Number -", 2), rep("%", 2),
rep("- Rate - ", 2), rep("%", 2))
        )
        # Inspect.
        header
```

```
               col_keys                                    line2
                 <char>                                   <char>
1:             category                  Offences against property
2:               num_18                             Offences reported
3:               num_19                             Offences reported
4:               num_20                             Offences reported
5:      year_change_per                             Offences reported
6:              rate_18 Offences reported per 100,000 persons
7:              rate_19 Offences reported per 100,000 persons
8:              rate_20 Offences reported per 100,000 persons
9: rate_year_change_per Offences reported per 100,000 persons
                                  line3      line4
                                 <char>     <char>
1:          Offences against property    Offence
2:                            2018-19 - Number -
3:                           2019-20  - Number -
4:                           2020-21           %
5:     1-yr change 2019-20 to 2020-21          %
6: 2018-19 (for pre-COVID comparison)  - Rate -
7:                          2019-20(a)   - Rate -
8:                           2020-21           %
9:     1-yr change 2019-20 to 2020-21          %
```

```r
        # Define the Main categories.
        main_cats <- c("Unlawful entry",
            "Arson",
            "Other property damage",
            "Unlawful use of motor vehicle",
            "Other theft",
            "Fraud",
            "Handling stolen goods"
        )

        # Define the theme design functions.
        theme_design <- function(x) {
            x <- border_remove(x)

            second_last_row <- d$category
            second_last_row <- rep(FALSE, length(second_last_row))
            second_last_row[which(d$category %in% "Total") - 1] <- TRUE

            total_row <- d$category == "Total"
            third_sub <- d$category %in% c("Without violence", "With
violence")
            italic_column <- names(d) %in% c("num_18", "rate_18")

            std_border <- fp_border_default(width = 2, color = "white")
            x <- fontsize(x, size = 10, part = "header")
            x <- fontsize(x, size = 9, part = "body")
            x <- font(x, fontname = "Arial", part = "all")
```

```
            x <- align(x, align = "center", part = "all")
            x <- align(x, align = "right", part = "body")
            x <- bold(x, bold = TRUE, part = "all")
            x <- italic(x, j = italic_column, italic = TRUE, part =
"body")
            x <- italic(x, i = third_sub, italic = TRUE, part = "body")
            x <- bg(x, bg = primary_cat, part = "body")
            x <- bg(x, bg = main_head_col, part = "header")
            x <- bg(x, bg = highlight_col, part = "footer")
            x <- color(x, color = "black", part = "all")
            x <- padding(x, padding = 2, part = "all")
            x <- border_outer(x, part = "all", border = std_border)
            x <- border_inner_h(x, border = std_border, part = "header")
            x <- border_inner_v(x, border = std_border, part = "all")
            x <- hline(x, i = second_last_row, border = std_border, part
= "body")
            x <- set_table_properties(x, layout = "fixed")
            x <- width(x, j = 1, width = 4.5, unit = "cm")
            x <- align(x, i = NULL, j = 1, align = "left", part = "body")
            x <- align(x, i = NULL, j = 1, align = "left", part =
"header")
            x <- colformat_num(
                x,
                big.mark = ",", decimal.mark = ".",
                na_str = "N/A"
            )
            x <- bg(x, i = fifelse(d$category %in% main_cats, FALSE, TRUE)
bg = secondary_cat, part = "body")
            x <- bg(x, i = total_row, bg = total_row_col, part = "body")
            x <- padding(
                x,
                j = 1,
                padding = NULL,
                padding.top = NULL,
                padding.bottom = NULL,
                padding.left = 5,
                padding.right = NULL,
                part = "all"
            )
            x <- padding(
                x,
                i = fifelse(d$category %in% main_cats | total_row, FALSE,
TRUE),
                j = 1,
                padding = NULL,
                padding.top = NULL,
                padding.bottom = NULL,
                padding.left = 12,
```

```
                padding.right = NULL,
                part = "body"
            )
            x <- padding(
                x,
                i = third_sub,
                j = 1,
                padding = NULL,
                padding.top = NULL,
                padding.bottom = NULL,
                padding.left = 17,
                padding.right = NULL,
                part = "body"
            )
            x <- bold(x, i = fifelse(d$category %in% main_cats |
total_row, FALSE, TRUE), bold = FALSE, part = "body")
            x
        }

        # Create the flextable.
        ft <- flextable(d, col_keys = header$col_keys)

        # Update flextable and apply the function.
        ft <- set_header_df(ft, mapping = header, key = "col_keys") %>%
            merge_v(part = "header", j = 1) %>%
            merge_h(part = "header", i = 1) %>%
            merge_h(part = "header", i = 3) %>%
            theme_design()

        # Compose the flextable.
        ft <- compose(
            ft,
            j = "num_18",
            part = "header",
            value = as_paragraph(
                "2018-19",
                as_chunk(
                    " (for pre-COVID comparison)",
                    props = fp_text_default(color = "#006699", font.size
= 5)
                )
            )
        )

        # Display the flextable.
        ft
```