Video Game Sales

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Introduction

Video games were an entertainment source that were first created in the 1950's and 1960's. However, it was only in the 1970's during which the first consumer-ready video game hardware was ready for release, the console known as the "Magnovox Odyssey" and the first video games, Pong and Computer Space. Since then, video games have exploded in popularity, bringing in a total worldwide revenue of 175.8 billion dollars in 2021 when considering PC, console, and mobile games together.

Objective

The dataset we will be looking at in this project will contain data on video games with sales specifically greater than 100,000 copies. Using this dataset, we will answer the following questions below:

- 1. Which video game genres sell the most, across all platforms and regions? Do certain regions like different genres more or less?
- 2. In each region, which publishers have the greatest sales? Which publishers have the greatest sales worldwide?
- 3. During which years did video games have the greatest sales? (Provide a visualization to graphically represent the change in sales over the years)
- 4. For each decade present in the data set, what platforms had the most video game sales? What was the best-selling game of each decade?

Loading in packages

v ggplot2 3.3.5 v purrr 0.3.4 ## v tibble 3.1.2 v dplyr 1.0.7 ## v tidyr 1.1.3 v stringr 1.4.0 ## v readr 2.0.0 v forcats 0.5.1

```
## -- Conflicts ------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag() masks stats::lag()
library(ggplot2)
```

Loading in the data

```
vgSalesData <- read_csv('vgsales.csv')

## Rows: 16598 Columns: 11

## -- Column specification -------
## Delimiter: ","

## chr (5): Name, Platform, Year, Genre, Publisher

## dbl (6): Rank, NA_Sales, EU_Sales, JP_Sales, Other_Sales, Global_Sales

##

## i Use 'spec()' to retrieve the full column specification for this data.

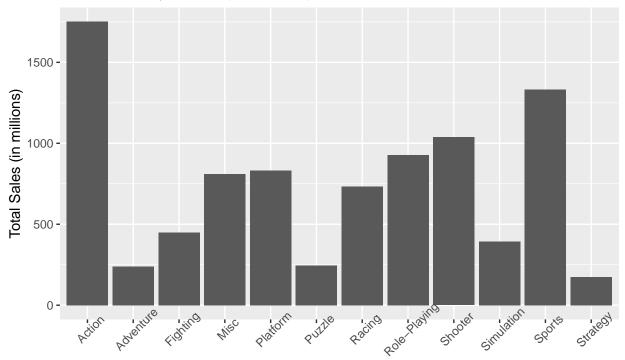
## i Specify the column types or set 'show_col_types = FALSE' to quiet this message.</pre>
```

Taking a look into dimensions of dataset and data types of variables

```
glimpse(vgSalesData)
## Rows: 16,598
## Columns: 11
## $ Rank
                                                 <dbl> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17~
                                                 <chr> "Wii Sports", "Super Mario Bros.", "Mario Kart Wii", "Wii~
## $ Name
## $ Platform
                                                 <chr> "Wii", "NES", "Wii", "Wii", "GB", "GB", "DS", "Wii", "Wii~
## $ Year
                                                 <chr> "2006", "1985", "2008", "2009", "1996", "1989", "2006", "~
                                                <chr> "Sports", "Platform", "Racing", "Sports", "Role-Playing",~
## $ Genre
## $ Publisher <chr> "Nintendo", "Nintendo
## $ NA Sales
                                                 <dbl> 41.49, 29.08, 15.85, 15.75, 11.27, 23.20, 11.38, 14.03, 1~
## $ EU Sales
                                                 <dbl> 29.02, 3.58, 12.88, 11.01, 8.89, 2.26, 9.23, 9.20, 7.06, ~
                                                 <dbl> 3.77, 6.81, 3.79, 3.28, 10.22, 4.22, 6.50, 2.93, 4.70, 0.~
## $ JP Sales
## $ Other_Sales <dbl> 8.46, 0.77, 3.31, 2.96, 1.00, 0.58, 2.90, 2.85, 2.26, 0.4~
## $ Global_Sales <dbl> 82.74, 40.24, 35.82, 33.00, 31.37, 30.26, 30.01, 29.02, 2~
# Grouping the data entries based on the "Genre" variable and finding global sales
# for each genre
salesbyGenre <- vgSalesData %>%
     group_by(Genre) %>%
     summarize(
          totalSales = sum(Global_Sales)
```

```
# Creating a bar chart to visualize global sales for each genre
salesbyGenre %>%
  ggplot(aes(x = Genre, y = totalSales)) +
  geom_bar(stat = 'identity') +
  labs(
    x = 'Genre',
    y = 'Total Sales (in millions)',
    title = 'Total Sales by Genre (in millions)'
) +
  theme(
    axis.text.x = element_text(angle = 45)
)
```

Total Sales by Genre (in millions)



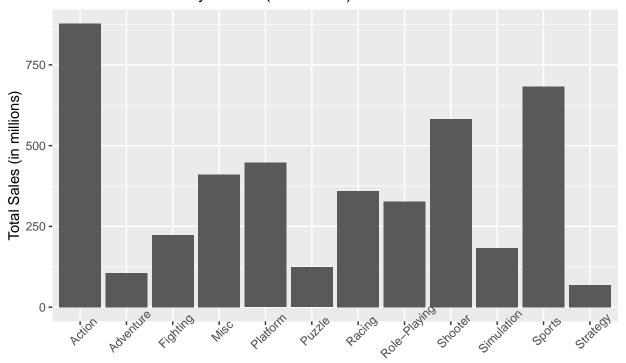
```
# Grouping the dataset by genre, and then focusing on NA, EU, and JP sales separately
naSalesbyGenre <- vgSalesData %>%
  group_by(Genre) %>%
  summarize(naSales = sum(NA_Sales))

euSalesbyGenre <- vgSalesData %>%
  group_by(Genre) %>%
  summarize(euSales = sum(EU_Sales))

jpSalesbyGenre <- vgSalesData %>%
  group_by(Genre) %>%
  summarize(jpSales = sum(JP_Sales))
```

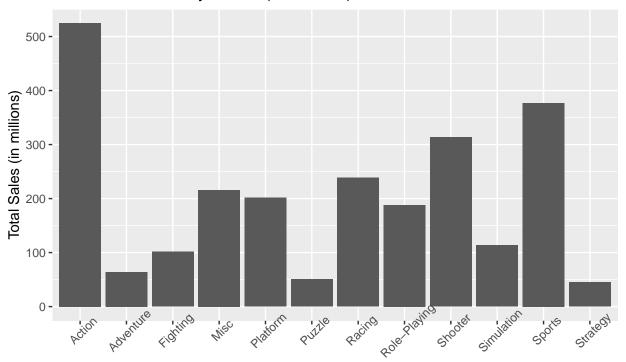
```
# Creating a bar chart for NA, EU, and JP to visualize the total sales of each
# genre in those regions
naSalesbyGenre %>%
ggplot(aes(x = Genre, y = naSales)) +
geom_bar(stat = 'identity') +
labs(
    x = 'Genre',
    y = 'Total Sales (in millions)',
    title = 'Total Sales in NA by Genre (in millions)'
) +
theme(
    axis.text.x = element_text(angle = 45)
)
```

Total Sales in NA by Genre (in millions)



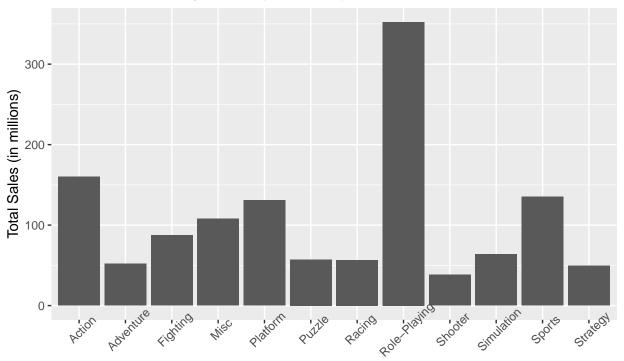
```
euSalesbyGenre %>%
  ggplot(aes(x = Genre, y = euSales)) +
  geom_bar(stat = 'identity') +
  labs(
    x = 'Genre',
    y = 'Total Sales (in millions)',
    title = 'Total Sales in EU by Genre (in millions)'
) +
  theme(
    axis.text.x = element_text(angle = 45)
)
```

Total Sales in EU by Genre (in millions)



```
jpSalesbyGenre %>%
  ggplot(aes(x = Genre, y = jpSales)) +
  geom_bar(stat = 'identity') +
  labs(
    x = 'Genre',
    y = 'Total Sales (in millions)',
    title = 'Total Sales in JP by Genre (in millions)'
) +
  theme(
    axis.text.x = element_text(angle = 45)
)
```

Total Sales in JP by Genre (in millions)



```
## # A tibble: 579 x 2
##
      Publisher
                                    globalPublisherSales
##
      <chr>
                                                    <dbl>
##
    1 Nintendo
                                                    1787.
    2 Electronic Arts
                                                    1110.
##
    3 Activision
                                                     727.
   4 Sony Computer Entertainment
                                                     608.
##
##
    5 Ubisoft
                                                     475.
##
  6 Take-Two Interactive
                                                     400.
  7 THQ
                                                     341.
   8 Konami Digital Entertainment
                                                     284.
```

```
273.
## 9 Sega
## 10 Namco Bandai Games
                                                   254.
## # ... with 569 more rows
# Finding publishers with greatest NA sales by arranging dataframe in descending
# order of naPublisherSales
salesByPublisher %>%
  arrange(desc(naPublisherSales)) %>%
 select(Publisher, naPublisherSales)
## # A tibble: 579 x 2
                                  naPublisherSales
     Publisher
##
      <chr>
                                             <dbl>
## 1 Nintendo
                                              817.
## 2 Electronic Arts
                                              595.
## 3 Activision
                                              430.
## 4 Sony Computer Entertainment
                                              265.
## 5 Ubisoft
                                              253.
## 6 Take-Two Interactive
                                              220.
## 7 THQ
                                              209.
## 8 Microsoft Game Studios
                                              155.
## 9 Atari
                                              110.
## 10 Sega
                                              109.
## # ... with 569 more rows
# Finding publishers with greatest EU sales by arranging dataframe in descending
# order of euPublisherSales
salesByPublisher %>%
 arrange(desc(euPublisherSales)) %>%
 select(Publisher, euPublisherSales)
## # A tibble: 579 x 2
##
     Publisher
                                   euPublisherSales
##
      <chr>>
                                              <dbl>
## 1 Nintendo
                                              419.
## 2 Electronic Arts
                                              371.
## 3 Activision
                                              216.
## 4 Sony Computer Entertainment
                                              188.
## 5 Ubisoft
                                              163.
## 6 Take-Two Interactive
                                              118.
## 7 THQ
                                               94.7
## 8 Sega
                                               82
## 9 Konami Digital Entertainment
                                               69.7
## 10 Microsoft Game Studios
                                               68.6
## # ... with 569 more rows
# Finding publishers with greatest JP sales by arranging dataframe in descending
# order of jpPublisherSales
salesByPublisher %>%
 arrange(desc(jpPublisherSales)) %>%
  select(Publisher, jpPublisherSales)
```

```
## # A tibble: 579 x 2
                                                                               jpPublisherSales
##
             Publisher
                                                                                                        <dbl>
##
             <chr>>
## 1 Nintendo
                                                                                                        455.
## 2 Namco Bandai Games
                                                                                                        127.
## 3 Konami Digital Entertainment
                                                                                                          91.3
## 4 Sony Computer Entertainment
                                                                                                          74.1
## 5 Capcom
                                                                                                          68.1
## 6 Sega
                                                                                                          57.0
## 7 Square Enix
                                                                                                          49.9
## 8 SquareSoft
                                                                                                          40.1
## 9 Enix Corporation
                                                                                                          32.4
## 10 Tecmo Koei
                                                                                                          29.2
## # ... with 569 more rows
# Finding publishers with greatest Other sales by arranging dataframe in descending
# order of otherPublisherSales
salesByPublisher %>%
    arrange(desc(otherPublisherSales)) %>%
    select(Publisher, otherPublisherSales)
## # A tibble: 579 x 2
##
            Publisher
                                                                               otherPublisherSales
##
              <chr>
                                                                                                               <dbl>
## 1 Electronic Arts
                                                                                                               130.
## 2 Nintendo
                                                                                                                 95.3
## 3 Sony Computer Entertainment
                                                                                                                 80.4
## 4 Activision
                                                                                                                 75.3
## 5 Take-Two Interactive
                                                                                                                 55.2
## 6 Ubisoft
                                                                                                                 50.3
## 7 THQ
                                                                                                                 32.1
## 8 Konami Digital Entertainment
                                                                                                                 30.3
                                                                                                                 24.5
## 9 Sega
## 10 Microsoft Game Studios
                                                                                                                 18.6
## # ... with 569 more rows
# Converting Year column into integer type
vgSalesData$Year <- as.integer(vgSalesData$Year)</pre>
## Warning: NAs introduced by coercion
glimpse(vgSalesData)
## Rows: 16,598
## Columns: 11
## $ Rank
                                        <dbl> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17~
## $ Name
                                        <chr> "Wii Sports", "Super Mario Bros.", "Mario Kart Wii", "Wii~
                                      <chr> "Wii", "NES", "Wii", "Wii", "GB", "GB", "DS", "Wii", "Wii~
## $ Platform
## $ Year
                                        <int> 2006, 1985, 2008, 2009, 1996, 1989, 2006, 2006, 2009, 198~
                                   <chr> "Sports", "Platform", "Racing", "Sports", "Role-Playing",~
## $ Genre
## $ Publisher <chr> "Nintendo", "Nintendo
```

\$ NA_Sales

<dbl> 41.49, 29.08, 15.85, 15.75, 11.27, 23.20, 11.38, 14.03, 1~

```
## $ EU Sales
                  <dbl> 29.02, 3.58, 12.88, 11.01, 8.89, 2.26, 9.23, 9.20, 7.06, ~
                  <dbl> 3.77, 6.81, 3.79, 3.28, 10.22, 4.22, 6.50, 2.93, 4.70, 0.~
## $ JP Sales
## $ Other_Sales <dbl> 8.46, 0.77, 3.31, 2.96, 1.00, 0.58, 2.90, 2.85, 2.26, 0.4~
## $ Global_Sales <dbl> 82.74, 40.24, 35.82, 33.00, 31.37, 30.26, 30.01, 29.02, 2~
# Re-arranging the data set to observe which year the oldest video games
# in the data set were created
arrange(vgSalesData, Year)
## # A tibble: 16,598 x 11
##
       Rank Name
                                                Publisher NA_Sales EU_Sales JP_Sales
                        Platform Year Genre
##
      <dbl> <chr>
                         <chr>
                                  <int> <chr>
                                                <chr>>
                                                              <dbl>
                                                                       <dbl>
                                                                                <dbl>
##
   1
       259 Asteroids
                        2600
                                   1980 Shooter Atari
                                                               4
                                                                        0.26
                                                                                    0
##
       545 Missile Co~ 2600
                                   1980 Shooter Atari
                                                               2.56
                                                                        0.17
                                                                                    0
   3 1768 Kaboom!
##
                        2600
                                   1980 Misc
                                                Activisi~
                                                               1.07
                                                                        0.07
                                                                                    0
##
   4 1971 Defender
                        2600
                                   1980 Misc
                                                Atari
                                                              0.99
                                                                        0.05
                                                                                    0
##
  5 2671 Boxing
                                                                                    0
                        2600
                                   1980 Fighti~ Activisi~
                                                              0.72
                                                                        0.04
   6 4027 Ice Hockey
                        2600
                                  1980 Sports Activisi~
                                                              0.46
                                                                        0.03
                                                                                    0
  7 5368 Freeway
                         2600
                                                                        0.02
                                                                                    0
##
                                  1980 Action Activisi~
                                                              0.32
## 8 6319 Bridge
                         2600
                                   1980 Misc
                                                Activisi~
                                                              0.25
                                                                        0.02
                                                                                    0
## 9 6898 Checkers
                                                                                    0
                        2600
                                   1980 Misc
                                                              0.22
                                                                        0.01
                                                Atari
                        2600
                                                                                    0
       240 Pitfall!
                                   1981 Platfo~ Activisi~
                                                               4.21
                                                                        0.24
## # ... with 16,588 more rows, and 2 more variables: Other_Sales <dbl>,
## #
     Global_Sales <dbl>
# Finding out when the latest games in the data set were made
max(vgSalesData$Year, na.rm = TRUE)
## [1] 2020
# Filtering for data entries that have the years 1980 to 1989
firstDecade <- vgSalesData %>%
  filter(Year >= 1980 & Year <= 1989)
# Finding the best-selling game from 1980 to 1989
firstDecade %>%
  arrange(desc(Global_Sales))
## # A tibble: 205 x 11
##
       Rank Name
                         Platform Year Genre Publisher NA_Sales EU_Sales JP_Sales
##
      <dbl> <chr>
                         <chr>
                                   <int> <chr> <chr>
                                                              <dbl>
                                                                       <dbl>
                                                                                <dbl>
                                    1985 Platf~ Nintendo
                                                              29.1
##
   1
          2 Super Mario~ NES
                                                                        3.58
                                                                                 6.81
##
   2
          6 Tetris
                         GB
                                    1989 Puzzle Nintendo
                                                              23.2
                                                                        2.26
                                                                                 4.22
##
   3
         10 Duck Hunt
                         NES
                                    1984 Shoot~ Nintendo
                                                              26.9
                                                                        0.63
                                                                                 0.28
##
   4
         22 Super Mario~ GB
                                    1989 Platf~ Nintendo
                                                              10.8
                                                                        2.71
                                                                                 4.18
##
   5
         23 Super Mario~ NES
                                    1988 Platf~ Nintendo
                                                              9.54
                                                                                 3.84
                                                                        3.44
##
   6
         90 Pac-Man
                         2600
                                    1982 Puzzle Atari
                                                              7.28
                                                                        0.45
                                                                                 0
   7
         97 Super Mario~ NES
                                    1988 Platf~ Nintendo
                                                              5.39
                                                                                 0.7
                                                                        1.18
                                                                                 1.69
##
  8
        128 The Legend ~ NES
                                    1986 Action Nintendo
                                                              3.74
                                                                        0.93
## 9
        156 Tetris
                         NES
                                    1988 Puzzle Nintendo
                                                              2.97
                                                                        0.69
                                                                                 1.81
        171 Dr. Mario
                         GB
## 10
                                    1989 Puzzle Nintendo
                                                              2.18
                                                                        0.96
                                                                                 2
## # ... with 195 more rows, and 2 more variables: Other_Sales <dbl>,
```

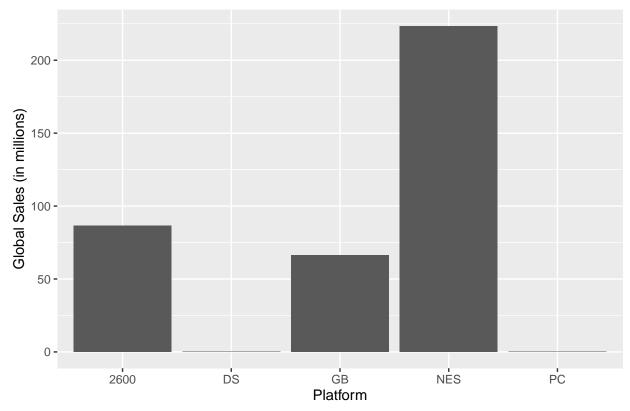
Global Sales <dbl>

#

```
# Grouping the firstDecade data entries by platform, and summarizing the sum of
# each platform's global sales
firstDecadePlatformSales <- firstDecade %>%
    group_by(Platform) %>%
    summarize(
        platformSales = sum(Global_Sales)
    )
```

```
# Creating bar chart to visualize the amount of sales each platform from 1980 to
# 1989 had worldwide
firstDecadePlatformSales %>%
   ggplot(aes(x = Platform, y = platformSales)) +
   geom_bar(stat = 'identity') +
   labs(
        x = "Platform",
        y = "Global Sales (in millions)",
        title = "Global Sales for Each Platform from 1980 to 1989"
)
```

Global Sales for Each Platform from 1980 to 1989



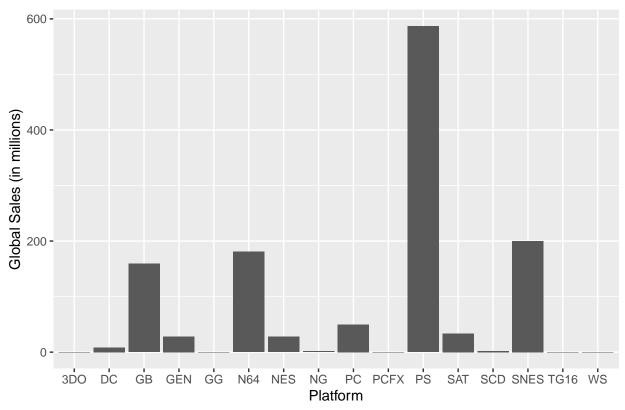
```
# Filtering for data entries that have the years 1990 to 1999
secondDecade <- vgSalesData %>%
  filter(Year >= 1990 & Year <= 1999)

# Finding the best-selling game from 1990 to 1999
secondDecade %>%
```

```
arrange(desc(Global_Sales))
```

```
## # A tibble: 1,769 x 11
##
                      Platform Year Genre Publisher
                                                        NA_Sales EU_Sales JP_Sales
      Rank Name
##
      <dbl> <chr>
                       <chr>
                               <int> <chr> <chr>
                                                            <dbl>
                                                                     <dbl>
                                1996 Role-~ Nintendo
                                                                              10.2
##
         5 Pokemon R~ GB
                                                            11.3
                                                                      8.89
  1
##
   2
        13 Pokemon G~ GB
                                1999 Role-~ Nintendo
                                                            9
                                                                      6.18
                                                                              7.2
## 3
        19 Super Mar~ SNES
                                1990 Platf~ Nintendo
                                                            12.8
                                                                      3.75
                                                                              3.54
## 4
        31 Pokémon Y~ GB
                                1998 Role-~ Nintendo
                                                                      5.04
                                                                              3.12
                                                            5.89
                                1996 Platf~ Nintendo
## 5
        47 Super Mar~ N64
                                                            6.91
                                                                      2.85
                                                                              1.91
        51 Super Mar~ GB
## 6
                                1992 Adven~ Nintendo
                                                                      2.04
                                                                              2.69
                                                            6.16
                                                                              2.54
## 7
                                1997 Racing Sony Compu~
        53 Gran Turi~ PS
                                                            4.02
                                                                      3.87
                                1993 Platf~ Nintendo
## 8
        58 Super Mar~ SNES
                                                            5.99
                                                                      2.15
                                                                              2.12
## 9
        64 Mario Kar~ N64
                                1996 Racing Nintendo
                                                            5.55
                                                                      1.94
                                                                              2.23
## 10
        67 Final Fan~ PS
                                1997 Role-~ Sony Compu~
                                                            3.01
                                                                      2.47
                                                                              3.28
## # ... with 1,759 more rows, and 2 more variables: Other_Sales <dbl>,
      Global_Sales <dbl>
# Grouping the secondDecade data entries by platform, and summarizing the sum of
# each platform's global sales
secondDecadePlatformSales <- secondDecade %>%
  group_by(Platform) %>%
  summarize(
   platformSales = sum(Global_Sales)
# Creating bar chart to visualize the amount of sales each platform from 1990 to
# 1999 had worldwide
secondDecadePlatformSales %>%
  ggplot(aes(x = Platform, y = platformSales)) +
  geom_bar(stat = 'identity') +
 labs(
   x = "Platform",
   y = "Global Sales (in millions)",
   title = "Global Sales for Each Platform from 1990 to 1999"
  )
```

Global Sales for Each Platform from 1990 to 1999



```
# Filtering for data entries that have the years 2000 to 2009
thirdDecade <- vgSalesData %>%
  filter(Year >= 2000 & Year <= 2009)

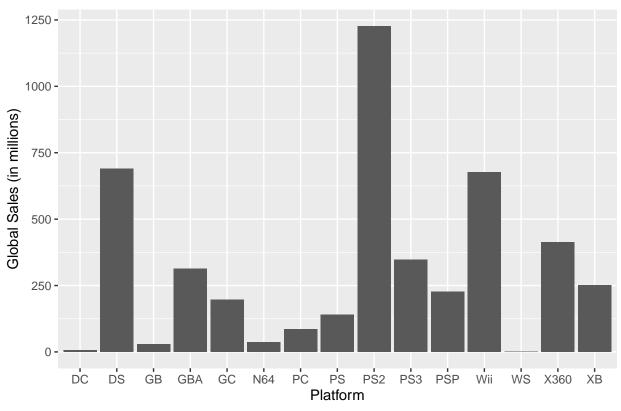
# Finding the best-selling game from 2000 to 2009
thirdDecade %>%
  arrange(desc(Global_Sales))
```

```
## # A tibble: 9,208 x 11
                         Platform Year Genre Publisher NA_Sales EU_Sales JP_Sales
##
       Rank Name
##
      <dbl> <chr>
                          <chr>
                                   <int> <chr> <chr>
                                                              <dbl>
                                                                       <dbl>
                                                                                 <dbl>
                                    2006 Sports Nintendo
                                                              41.5
                                                                       29.0
                                                                                  3.77
##
   1
          1 Wii Sports
                         Wii
##
          3 Mario Kart ~ Wii
                                    2008 Racing Nintendo
                                                              15.8
                                                                       12.9
                                                                                  3.79
    2
##
          4 Wii Sports ~ Wii
                                    2009 Sports Nintendo
                                                              15.8
                                                                       11.0
                                                                                  3.28
##
    4
          7 New Super M~ DS
                                    2006 Platf~ Nintendo
                                                              11.4
                                                                        9.23
                                                                                  6.5
##
   5
          8 Wii Play
                          Wii
                                    2006 Misc
                                                Nintendo
                                                              14.0
                                                                        9.2
                                                                                  2.93
                                    2009 Platf~ Nintendo
                                                                        7.06
                                                                                  4.7
    6
          9 New Super M~ Wii
                                                              14.6
##
    7
         11 Nintendogs
                         DS
                                    2005 Simul~ Nintendo
                                                               9.07
                                                                       11
                                                                                  1.93
##
                                                                                  4.13
##
    8
         12 Mario Kart ~ DS
                                    2005 Racing Nintendo
                                                               9.81
                                                                        7.57
##
         14 Wii Fit
                          Wii
                                    2007 Sports Nintendo
                                                               8.94
                                                                        8.03
                                                                                  3.6
## 10
         15 Wii Fit Plus Wii
                                    2009 Sports Nintendo
                                                               9.09
                                                                        8.59
                                                                                  2.53
     ... with 9,198 more rows, and 2 more variables: Other_Sales <dbl>,
     Global_Sales <dbl>
```

```
# Grouping the thirdDecade data entries by platform, and summarizing the sum of
# each platform's global sales
thirdDecadePlatformSales <- thirdDecade %>%
  group_by(Platform) %>%
  summarize(
    platformSales = sum(Global_Sales)
)
```

```
# Creating bar chart to visualize the amount of sales each platform from 2000 to
# 2009 had worldwide
thirdDecadePlatformSales %>%
    ggplot(aes(x = Platform, y = platformSales)) +
    geom_bar(stat = 'identity') +
    labs(
        x = "Platform",
        y = "Global Sales (in millions)",
        title = "Global Sales for Each Platform from 2000 to 2009"
)
```

Global Sales for Each Platform from 2000 to 2009

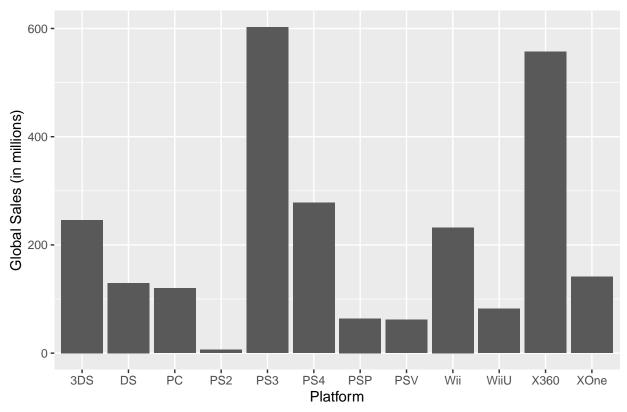


```
# Filtering for data entries that have the years 2010 to 2019
lastDecade <- vgSalesData %>%
  filter(Year >= 2010 & Year <= 2019)

# Combining sales of games that were on more than one platform
lastDecadeCombined <- lastDecade %>%
```

```
group_by(Name) %>%
  summarize(
    NA_Sales = sum(NA_Sales),
    EU_Sales = sum(EU_Sales),
    JP_Sales = sum(JP_Sales),
    Other_Sales = sum(Other_Sales),
    Global_Sales = sum(Global_Sales)
  )
# Finding the best-selling game from 2010-2020
lastDecadeCombined %>%
  arrange(desc(Global Sales))
## # A tibble: 3,208 x 6
                                NA Sales EU Sales JP Sales Other Sales Global Sales
##
     Name
##
      <chr>>
                                   <dbl>
                                                                 <dbl>
                                            <dbl>
                                                     <dbl>
                                                                             <dbl>
## 1 Grand Theft Auto V
                                   23.5
                                            23.0
                                                      1.39
                                                                 8.03
                                                                              55.9
## 2 Call of Duty: Modern War~
                                  15.6
                                           11.3
                                                     0.62
                                                                 3.35
                                                                              30.8
## 3 Call of Duty: Black Ops ~
                                                                              29.7
                                  14.1
                                           11.0
                                                     0.72
                                                                 3.88
## 4 Call of Duty: Black Ops
                                  17.0
                                           8.69
                                                     0.59
                                                                              29.4
                                                                 3.12
## 5 Call of Duty: Ghosts
                                  14.9
                                            9.05
                                                     0.48
                                                                 2.92
                                                                              27.4
## 6 Call of Duty: Black Ops 3
                                  11.9
                                            9.56
                                                     0.43
                                                                 3.42
                                                                              25.3
## 7 Minecraft
                                  10.8
                                            8.85
                                                    1.15
                                                                 2.93
                                                                              23.7
## 8 Call of Duty: Advanced W~
                                  10.4
                                            8.18
                                                     0.34
                                                                 2.93
                                                                              21.9
## 9 Kinect Adventures!
                                            4.94
                                                     0.24
                                                                 1.67
                                                                               21.8
                                  15.0
## 10 The Elder Scrolls V: Sky~
                                   8.73
                                            7.66
                                                     0.35
                                                                  2.54
                                                                              19.3
## # ... with 3,198 more rows
# Grouping the lastDecade data entries by platform, and summarizing the sum of
# each platform's global sales
lastDecadePlatformSales <- lastDecade %>%
  group by(Platform) %>%
  summarize(
    platformSales = sum(Global_Sales)
  )
# Creating bar chart to visualize the amount of sales each platform from 2010 to
# 2019 had worldwide
lastDecadePlatformSales %>%
  ggplot(aes(x = Platform, y = platformSales)) +
  geom_bar(stat = 'identity') +
  labs(
    x = "Platform",
    y = "Global Sales (in millions)",
    title = "Global Sales for Each Platform from 2010 to 2019"
```

Global Sales for Each Platform from 2010 to 2019



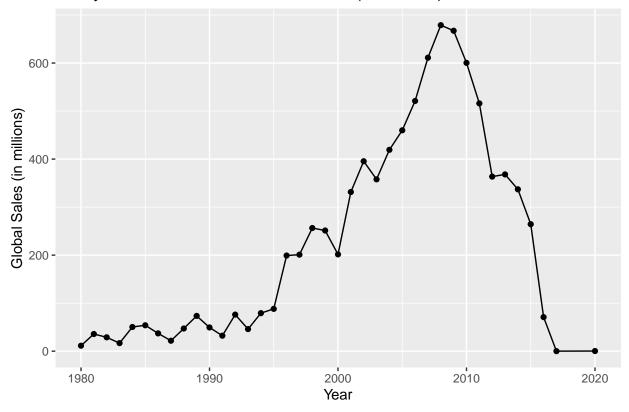
```
# Grouping data entries in original data set by year, and then finding global sales
# for each year
globalSalesByYear <- vgSalesData %>%
  group_by(Year) %>%
  summarize(
    yearlyGlobalSales = sum(Global_Sales)
)
```

```
# Creating line graph to represent yearly global sales from 1980 to 2020
globalSalesByYear %>%
   ggplot(aes(x = Year, y = yearlyGlobalSales)) +
   geom_line() +
   geom_point() +
   labs(
        y = 'Global Sales (in millions)',
        title = 'Yearly Global Sales from 1980 to 2020 (in millions)'
)
```

```
## Warning: Removed 1 row(s) containing missing values (geom_path).
```

Warning: Removed 1 rows containing missing values (geom_point).

Yearly Global Sales from 1980 to 2020 (in millions)



Summary Report

The video game genres that sell the most across all platforms and regions are Action (1751.18 million), Sports (1330.93 million), and Shooters (1037.37 million). Both the NA and EU regions follow this worldwide trend, with Action, Sports, and Shooter video games selling the most there. But the case is highly different in the JP region, where Role-Playing Games (RPG's) take heavy precedence over all other video game genres. After RPG's, Action and Sports games sell the most.

From a global perspective, the publisher that has the most video game sales is Nintendo. In the NA, EU, and JP regions, Nintendo also takes first place for greatest number of video game sales. In other regions of the world, however, Electronic Arts (EA) has the most video game sales.

The year with the greatest video game sales is 2008, with 678.90 million sales total. It seems that from 2000 to around 2008, the yearly global sales of video games greatly increased, before dropping off starting 2009 and onward.

In the 1980's, the platform with the greatest video game sales was the NES (223.52 million), and the best-selling game of that decade was Super Mario Bros (40.24 million). In the 1990's, the platform with the highest video game sales was the PS or Playstation, while the best-selling game of that decade was Pokemon Red/Pokemon Blue. From 2000 to 2009, the platform with the highest video game sales was the PS2, and the best-selling video game of the decade Wii Sports. For 2010-2020, the PS3 had the greatest game sales, and the best-selling game was Grand Theft Auto V.