

Kuis Susulan

2210512015_Kuis

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Petunjuk

1. Jawablah dengan mengisi kode chunk di bawah soal.
2. Durasi pengerjaan sesuai selama 120 menit (2 jam).
3. Tidak ada toleransi pengumpulan telat.
4. GABOLEH NYONTEK.
5. Misal soal rancu bisa menghubungi asisten terkait
6. Kumpulkan dalam bentuk **.pdf**
7. Ubah nama author dan nama file menjadi **NIM_Kuis**
8. Kalo ada simbol “backslash” pada soal abaikan aja, itu buat ganti baris doang.

Soal Kuis

0. Pada soal ini, kita akan menggunakan dataset bernama `video_game_sales`.
Dataset ini berisi 100 video game dengan penjualan terbaik pada tahun 1984-2015.
Jalankan kode di bawah untuk menggunakan dataset `video_game_sales`. (2%)
Sumber dataset: <https://www.kaggle.com/datasets/gregorut/videogamesales>

```
# Nomor. 0
video_game_sales = data.frame(
  name = c(
    "Wii Sports",
    "Super Mario Bros.",
    "Mario Kart Wii",
    "Wii Sports Resort",
    "Pokemon Red/Pokemon Blue",
    "Tetris",
    "New Super Mario Bros.",
    "Wii Play",
    "New Super Mario Bros. Wii",
    "Duck Hunt",
    "Nintendogs",
    "Mario Kart DS",
    "Pokemon Gold/Pokemon Silver",
    "Wii Fit",
    "Wii Fit Plus",
    "Kinect Adventures!",
    "Grand Theft Auto V",
    "Grand Theft Auto: San Andreas",
```

"Super Mario World",
"Brain Age: Train Your Brain in Minutes a Day",
"Pokemon Diamond/Pokemon Pearl",
"Super Mario Land",
"Super Mario Bros. 3",
"Grand Theft Auto V",
"Grand Theft Auto: Vice City",
"Pokemon Ruby/Pokemon Sapphire",
"Pokemon Black/Pokemon White",
"Brain Age 2: More Training in Minutes a Day",
"Gran Turismo 3: A-Spec",
"Call of Duty: Modern Warfare 3",
"Pokémon Yellow: Special Pikachu Edition",
"Call of Duty: Black Ops",
"Pokemon X/Pokemon Y",
"Call of Duty: Black Ops 3",
"Call of Duty: Black Ops II",
"Call of Duty: Black Ops II",
"Call of Duty: Modern Warfare 2",
"Call of Duty: Modern Warfare 3",
"Grand Theft Auto III",
"Super Smash Bros. Brawl",
"Call of Duty: Black Ops",
"Animal Crossing: Wild World",
"Mario Kart 7",
"Halo 3",
"Grand Theft Auto V",
"Pokemon HeartGold/Pokemon SoulSilver",
"Super Mario 64",
"Gran Turismo 4",
"Super Mario Galaxy",
"Pokemon Omega Ruby/Pokemon Alpha Sapphire",
"Super Mario Land 2: 6 Golden Coins",
"Grand Theft Auto IV",
"Gran Turismo",
"Super Mario 3D Land",
"Gran Turismo 5",
"Call of Duty: Modern Warfare 2",
"Grand Theft Auto IV",
"Super Mario All-Stars",
"Pokemon FireRed/Pokemon LeafGreen",
"Super Mario 64",
"Just Dance 3",
"Call of Duty: Ghosts",
"Halo: Reach",
"Mario Kart 64",
"New Super Mario Bros. 2",
"Halo 4",
"Final Fantasy VII",
"Call of Duty: Ghosts",
"Just Dance 2",
"Gran Turismo 2",
"Call of Duty 4: Modern Warfare",

```

    "Donkey Kong Country",
    "Minecraft",
    "Animal Crossing: New Leaf",
    "Mario Party DS"
),
platform = as.factor(c(
    "Wii", "NES", "Wii", "Wii", "GB", "GB",
    "DS", "Wii", "Wii", "NES", "DS", "DS",
    "GB", "Wii", "Wii", "X360", "PS3", "PS2",
    "SNES", "DS", "DS", "GB", "NES", "X360",
    "PS2", "GBA", "DS", "DS", "PS2", "X360",
    "GB", "X360", "3DS", "PS4", "PS3", "X360",
    "X360", "PS3", "PS2", "Wii", "PS3", "DS",
    "3DS", "X360", "PS4", "DS", "N64", "PS2",
    "Wii", "3DS", "GB", "X360", "PS", "3DS",
    "PS3", "PS3", "PS3", "SNES", "GBA", "DS",
    "Wii", "X360", "X360", "N64", "3DS", "X360",
    "PS", "PS3", "Wii", "PS", "X360", "SNES",
    "X360", "3DS", "DS"
)),
year = c(
    2006, 1985, 2008, 2009, 1996, 1989, 2006,
    2006, 2009, 1984, 2005, 2005, 1999, 2007,
    2009, 2010, 2013, 2004, 1990, 2005, 2006,
    1989, 1988, 2013, 2002, 2002, 2010, 2005,
    2001, 2011, 1998, 2010, 2013, 2015, 2012,
    2012, 2009, 2011, 2001, 2008, 2010, 2005,
    2011, 2007, 2014, 2009, 1996, 2004, 2007,
    2014, 1992, 2008, 1997, 2011, 2010, 2009,
    2008, 1993, 2004, 2004, 2011, 2013, 2010,
    1996, 2012, 2012, 1997, 2013, 2010, 1999,
    2007, 1994, 2013, 2012, 2007
),
genre = as.factor(c(
    "Sports", "Platform", "Racing", "Sports", "RPG",
    "Puzzle", "Platform", "Misc", "Platform", "Shooter",
    "Simulation", "Racing", "RPG", "Sports", "Sports",
    "Misc", "Action", "Action", "Platform", "Misc", "RPG",
    "Platform", "Platform", "Action", "Action", "RPG", "RPG",
    "Puzzle", "Racing", "Shooter", "RPG", "Shooter",
    "RPG", "Shooter", "Shooter", "Shooter", "Shooter",
    "Shooter", "Action", "Fighting", "Shooter", "Simulation",
    "Racing", "Shooter", "Action", "Action", "Platform",
    "Racing", "Platform", "RPG", "Adventure", "Action",
    "Racing", "Platform", "Racing", "Shooter", "Action",
    "Platform", "RPG", "Platform", "Misc", "Shooter",
    "Shooter", "Racing", "Platform", "Shooter", "RPG",
    "Shooter", "Misc", "Racing", "Shooter", "Platform",
    "Misc", "Simulation", "Misc"
)),
us_sales = c(
    41.49, 29.08, 15.85, 15.75, 11.27, 23.2,
    11.38, 14.03, 14.59, 26.93, 9.07, 9.81, 9,

```

```

8.94, 9.09, 14.97, 7.01, 9.43, 12.78, 4.75,
6.42, 10.83, 9.54, 9.63, 8.41, 6.06, 5.57,
3.44, 6.85, 9.03, 5.89, 9.67, 5.17, 5.77,
4.99, 8.25, 8.52, 5.54, 6.99, 6.75, 5.98,
2.55, 4.74, 7.97, 3.8, 4.4, 6.91, 3.01,
6.16, 4.23, 6.16, 6.76, 4.02, 4.89, 2.96,
4.99, 4.76, 5.99, 4.34, 5.08, 6.05, 6.72,
7.03, 5.55, 3.66, 6.63, 3.01, 4.09, 5.84,
3.88, 5.91, 4.36, 5.58, 2.01, 4.46
),
global_sales = c(
82.74, 40.24, 35.82, 33, 31.37, 30.26, 30.01,
29.02, 28.62, 28.31, 24.76, 23.42, 23.1, 22.72,
22, 21.82, 21.4, 20.81, 20.61, 20.22, 18.36,
18.14, 17.28, 16.38, 16.15, 15.85, 15.32, 15.3,
14.98, 14.76, 14.64, 14.64, 14.35, 14.24, 14.03,
13.73, 13.51, 13.46, 13.1, 13.04, 12.73, 12.27,
12.21, 12.14, 11.98, 11.9, 11.89, 11.66, 11.52,
11.33, 11.18, 11.02, 10.95, 10.79, 10.77, 10.69,
10.57, 10.55, 10.49, 10.42, 10.26, 10.21, 9.88,
9.87, 9.82, 9.76, 9.72, 9.59, 9.52, 9.49, 9.32,
9.3, 9.2, 9.09, 9.02
)
)
View(video_game_sales)

```

1. Load library dplyr! (3%)

```

# Jawaban no. 1
library(dplyr)

```

```

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

```

2. Tampilkan 10 game dengan penjualan terbanyak di US untuk game yang rilis pada tahun 2000 s/d 2012.
Tampilkan hanya kolom nama dan total penjualan di US. (10%)

```

# Jawaban no. 2
video_game_sales %>%
  filter(year >= 2000 & year <= 2012) %>%
  select(name, us_sales)

```

##		name	us_sales
## 1		Wii Sports	41.49
## 2		Mario Kart Wii	15.85
## 3		Wii Sports Resort	15.75
## 4		New Super Mario Bros.	11.38
## 5		Wii Play	14.03
## 6		New Super Mario Bros. Wii	14.59
## 7		Nintendogs	9.07
## 8		Mario Kart DS	9.81
## 9		Wii Fit	8.94
## 10		Wii Fit Plus	9.09
## 11		Kinect Adventures!	14.97
## 12		Grand Theft Auto: San Andreas	9.43
## 13	Brain Age: Train Your Brain in Minutes a Day		4.75
## 14		Pokemon Diamond/Pokemon Pearl	6.42
## 15		Grand Theft Auto: Vice City	8.41
## 16		Pokemon Ruby/Pokemon Sapphire	6.06
## 17		Pokemon Black/Pokemon White	5.57
## 18	Brain Age 2: More Training in Minutes a Day		3.44
## 19		Gran Turismo 3: A-Spec	6.85
## 20		Call of Duty: Modern Warfare 3	9.03
## 21		Call of Duty: Black Ops	9.67
## 22		Call of Duty: Black Ops II	4.99
## 23		Call of Duty: Black Ops II	8.25
## 24		Call of Duty: Modern Warfare 2	8.52
## 25		Call of Duty: Modern Warfare 3	5.54
## 26		Grand Theft Auto III	6.99
## 27		Super Smash Bros. Brawl	6.75
## 28		Call of Duty: Black Ops	5.98
## 29		Animal Crossing: Wild World	2.55
## 30		Mario Kart 7	4.74
## 31		Halo 3	7.97
## 32		Pokemon HeartGold/Pokemon SoulSilver	4.40
## 33		Gran Turismo 4	3.01
## 34		Super Mario Galaxy	6.16
## 35		Grand Theft Auto IV	6.76
## 36		Super Mario 3D Land	4.89
## 37		Gran Turismo 5	2.96
## 38		Call of Duty: Modern Warfare 2	4.99
## 39		Grand Theft Auto IV	4.76
## 40		Pokemon FireRed/Pokemon LeafGreen	4.34
## 41		Super Mario 64	5.08
## 42		Just Dance 3	6.05
## 43		Halo: Reach	7.03
## 44		New Super Mario Bros. 2	3.66
## 45		Halo 4	6.63
## 46		Just Dance 2	5.84
## 47		Call of Duty 4: Modern Warfare	5.91
## 48		Animal Crossing: New Leaf	2.01
## 49		Mario Party DS	4.46

3. Tampilkan semua nama kolom pada dataframe tersebut! (5%)

```
# Jawaban no. 3
colnames(video_game_sales)
```

```
## [1] "name"          "platform"      "year"          "genre"         "us_sales"
## [6] "global_sales"
```

4. Tampilkan tipe data yang dimiliki oleh kolom “platform”.
Pada bagian bawah kode, jelaskan mengapa kolom “platform” memakai tipe data tersebut. (10%)

```
# Jawaban no. 4
class(video_game_sales$platform)
```

```
## [1] "factor"
```

```
# str(video_game_sales$platform)
```

Penjelasan no. 4: Karena data kategorikal, dengan 13 kombinasi

5. Tampilkan 5 data teratas untuk game pada platform “Wii” diurutkan berdasarkan tahun rilis terbaru.
Tampilkan semua kolom kecuali kolom “us_sales” (11%)

```
# Jawaban no. 5
video_game_sales %>%
  filter( platform == "Wii") %>%
  arrange(desc(year)) %>%
  head(5) %>%
  select(-us_sales)
```

```
##              name platform year   genre global_sales
## 1      Just Dance 3      Wii 2011   Misc      10.26
## 2      Just Dance 2      Wii 2010   Misc       9.52
## 3   Wii Sports Resort      Wii 2009 Sports     33.00
## 4 New Super Mario Bros. Wii      Wii 2009 Platform    28.62
## 5      Wii Fit Plus      Wii 2009 Sports     22.00
```

6. Buatlah sebuah klasifikasi pada dataframe tersebut berdasarkan penjualan “global_sales” dengan kondisi:

- Penjualan ≥ 20 dikategorikan sebagai “Untung”
- Penjualan di antara 10-20 dikategorikan sebagai “Biasa aja”
- Penjualan ≤ 10 dikategorikan sebagai “Rugi”

Masukkan ke suatu variabel baru bernama ‘tingkat_penjualan’. (12%)

```
# Jawaban no. 6
tingkat_penjualan <-
  video_game_sales %>%
  mutate(klasifikasi_penjualan = ifelse(video_game_sales$global_sales >= 20, "Untung",
    ifelse(video_game_sales$global_sales <= 10, "Rugi", "Biasa aja")))
tingkat_penjualan
```

##		name	platform	year	genre
## 1		Wii Sports	Wii	2006	Sports
## 2		Super Mario Bros.	NES	1985	Platform
## 3		Mario Kart Wii	Wii	2008	Racing
## 4		Wii Sports Resort	Wii	2009	Sports
## 5		Pokemon Red/Pokemon Blue	GB	1996	RPG
## 6		Tetris	GB	1989	Puzzle
## 7		New Super Mario Bros.	DS	2006	Platform
## 8		Wii Play	Wii	2006	Misc
## 9		New Super Mario Bros. Wii	Wii	2009	Platform
## 10		Duck Hunt	NES	1984	Shooter
## 11		Nintendogs	DS	2005	Simulation
## 12		Mario Kart DS	DS	2005	Racing
## 13		Pokemon Gold/Pokemon Silver	GB	1999	RPG
## 14		Wii Fit	Wii	2007	Sports
## 15		Wii Fit Plus	Wii	2009	Sports
## 16		Kinect Adventures!	X360	2010	Misc
## 17		Grand Theft Auto V	PS3	2013	Action
## 18		Grand Theft Auto: San Andreas	PS2	2004	Action
## 19		Super Mario World	SNES	1990	Platform
## 20	Brain Age: Train Your Brain in Minutes a Day		DS	2005	Misc
## 21		Pokemon Diamond/Pokemon Pearl	DS	2006	RPG
## 22		Super Mario Land	GB	1989	Platform
## 23		Super Mario Bros. 3	NES	1988	Platform
## 24		Grand Theft Auto V	X360	2013	Action
## 25		Grand Theft Auto: Vice City	PS2	2002	Action
## 26		Pokemon Ruby/Pokemon Sapphire	GBA	2002	RPG
## 27		Pokemon Black/Pokemon White	DS	2010	RPG
## 28	Brain Age 2: More Training in Minutes a Day		DS	2005	Puzzle
## 29		Gran Turismo 3: A-Spec	PS2	2001	Racing
## 30		Call of Duty: Modern Warfare 3	X360	2011	Shooter
## 31	Pokémon Yellow: Special Pikachu Edition		GB	1998	RPG
## 32		Call of Duty: Black Ops	X360	2010	Shooter
## 33		Pokemon X/Pokemon Y	3DS	2013	RPG
## 34		Call of Duty: Black Ops 3	PS4	2015	Shooter
## 35		Call of Duty: Black Ops II	PS3	2012	Shooter
## 36		Call of Duty: Black Ops II	X360	2012	Shooter
## 37		Call of Duty: Modern Warfare 2	X360	2009	Shooter
## 38		Call of Duty: Modern Warfare 3	PS3	2011	Shooter
## 39		Grand Theft Auto III	PS2	2001	Action
## 40		Super Smash Bros. Brawl	Wii	2008	Fighting
## 41		Call of Duty: Black Ops	PS3	2010	Shooter
## 42		Animal Crossing: Wild World	DS	2005	Simulation
## 43		Mario Kart 7	3DS	2011	Racing
## 44		Halo 3	X360	2007	Shooter
## 45		Grand Theft Auto V	PS4	2014	Action
## 46	Pokemon HeartGold/Pokemon SoulSilver		DS	2009	Action
## 47		Super Mario 64	N64	1996	Platform
## 48		Gran Turismo 4	PS2	2004	Racing
## 49		Super Mario Galaxy	Wii	2007	Platform
## 50	Pokemon Omega Ruby/Pokemon Alpha Sapphire		3DS	2014	RPG
## 51		Super Mario Land 2: 6 Golden Coins	GB	1992	Adventure
## 52		Grand Theft Auto IV	X360	2008	Action
## 53		Gran Turismo	PS	1997	Racing

## 54	Super Mario 3D Land	3DS	2011	Platform
## 55	Gran Turismo 5	PS3	2010	Racing
## 56	Call of Duty: Modern Warfare 2	PS3	2009	Shooter
## 57	Grand Theft Auto IV	PS3	2008	Action
## 58	Super Mario All-Stars	SNES	1993	Platform
## 59	Pokemon FireRed/Pokemon LeafGreen	GBA	2004	RPG
## 60	Super Mario 64	DS	2004	Platform
## 61	Just Dance 3	Wii	2011	Misc
## 62	Call of Duty: Ghosts	X360	2013	Shooter
## 63	Halo: Reach	X360	2010	Shooter
## 64	Mario Kart 64	N64	1996	Racing
## 65	New Super Mario Bros. 2	3DS	2012	Platform
## 66	Halo 4	X360	2012	Shooter
## 67	Final Fantasy VII	PS	1997	RPG
## 68	Call of Duty: Ghosts	PS3	2013	Shooter
## 69	Just Dance 2	Wii	2010	Misc
## 70	Gran Turismo 2	PS	1999	Racing
## 71	Call of Duty 4: Modern Warfare	X360	2007	Shooter
## 72	Donkey Kong Country	SNES	1994	Platform
## 73	Minecraft	X360	2013	Misc
## 74	Animal Crossing: New Leaf	3DS	2012	Simulation
## 75	Mario Party DS	DS	2007	Misc

##	us_sales	global_sales	klasifikasi_penjualan
## 1	41.49	82.74	Untung
## 2	29.08	40.24	Untung
## 3	15.85	35.82	Untung
## 4	15.75	33.00	Untung
## 5	11.27	31.37	Untung
## 6	23.20	30.26	Untung
## 7	11.38	30.01	Untung
## 8	14.03	29.02	Untung
## 9	14.59	28.62	Untung
## 10	26.93	28.31	Untung
## 11	9.07	24.76	Untung
## 12	9.81	23.42	Untung
## 13	9.00	23.10	Untung
## 14	8.94	22.72	Untung
## 15	9.09	22.00	Untung
## 16	14.97	21.82	Untung
## 17	7.01	21.40	Untung
## 18	9.43	20.81	Untung
## 19	12.78	20.61	Untung
## 20	4.75	20.22	Untung
## 21	6.42	18.36	Biasa aja
## 22	10.83	18.14	Biasa aja
## 23	9.54	17.28	Biasa aja
## 24	9.63	16.38	Biasa aja
## 25	8.41	16.15	Biasa aja
## 26	6.06	15.85	Biasa aja
## 27	5.57	15.32	Biasa aja
## 28	3.44	15.30	Biasa aja
## 29	6.85	14.98	Biasa aja
## 30	9.03	14.76	Biasa aja
## 31	5.89	14.64	Biasa aja

## 32	9.67	14.64	Biasa aja
## 33	5.17	14.35	Biasa aja
## 34	5.77	14.24	Biasa aja
## 35	4.99	14.03	Biasa aja
## 36	8.25	13.73	Biasa aja
## 37	8.52	13.51	Biasa aja
## 38	5.54	13.46	Biasa aja
## 39	6.99	13.10	Biasa aja
## 40	6.75	13.04	Biasa aja
## 41	5.98	12.73	Biasa aja
## 42	2.55	12.27	Biasa aja
## 43	4.74	12.21	Biasa aja
## 44	7.97	12.14	Biasa aja
## 45	3.80	11.98	Biasa aja
## 46	4.40	11.90	Biasa aja
## 47	6.91	11.89	Biasa aja
## 48	3.01	11.66	Biasa aja
## 49	6.16	11.52	Biasa aja
## 50	4.23	11.33	Biasa aja
## 51	6.16	11.18	Biasa aja
## 52	6.76	11.02	Biasa aja
## 53	4.02	10.95	Biasa aja
## 54	4.89	10.79	Biasa aja
## 55	2.96	10.77	Biasa aja
## 56	4.99	10.69	Biasa aja
## 57	4.76	10.57	Biasa aja
## 58	5.99	10.55	Biasa aja
## 59	4.34	10.49	Biasa aja
## 60	5.08	10.42	Biasa aja
## 61	6.05	10.26	Biasa aja
## 62	6.72	10.21	Biasa aja
## 63	7.03	9.88	Rugi
## 64	5.55	9.87	Rugi
## 65	3.66	9.82	Rugi
## 66	6.63	9.76	Rugi
## 67	3.01	9.72	Rugi
## 68	4.09	9.59	Rugi
## 69	5.84	9.52	Rugi
## 70	3.88	9.49	Rugi
## 71	5.91	9.32	Rugi
## 72	4.36	9.30	Rugi
## 73	5.58	9.20	Rugi
## 74	2.01	9.09	Rugi
## 75	4.46	9.02	Rugi

7. Tambahkan kolom “tingkat_penjualan” tadi sebagai kolom baru pada dataframe.
Tampilkan 8 data teratas berdasarkan global_sales. (12%)

```
# Jawaban no. 7
video_game_sales = mutate(video_game_sales, tingkat_penjualan)

video_game_sales %>%
  arrange(desc(global_sales)) %>%
  head(8)
```

```
##           name platform year   genre us_sales global_sales
## 1      Wii Sports      Wii 2006   Sports   41.49      82.74
## 2    Super Mario Bros.    NES 1985 Platform   29.08      40.24
## 3      Mario Kart Wii     Wii 2008   Racing   15.85      35.82
## 4    Wii Sports Resort    Wii 2009   Sports   15.75      33.00
## 5 Pokemon Red/Pokemon Blue  GB 1996     RPG   11.27      31.37
## 6          Tetris        GB 1989   Puzzle   23.20      30.26
## 7    New Super Mario Bros.  DS 2006 Platform   11.38      30.01
## 8      Wii Play          Wii 2006    Misc    14.03      29.02
##  klasifikasi_penjualan
## 1          Untung
## 2          Untung
## 3          Untung
## 4          Untung
## 5          Untung
## 6          Untung
## 7          Untung
## 8          Untung
```

8. Ambil masing-masing 5 data pada tiap kategori pada tingkat_penjualan. Gabungkan data-data tersebut ke dalam suatu dataframe baru bernama “new_video_game_sales”. Setelah itu, Tampilkan isinya! (15%)
(Jadi nanti dataframe new_video_game_sales isinya ada 15 baris).

```
# Jawaban no. 8
new_video_game_sales = video_game_sales %>%
  group_by(klasifikasi_penjualan) %>%
  sample_n(5)
new_video_game_sales

## # A tibble: 15 x 7
## # Groups:   klasifikasi_penjualan [3]
##   name           platform year genre us_sales global_sales klasifikasi_penjualan
##   <chr>          <fct>   <dbl> <fct>   <dbl>      <dbl> <chr>
## 1 Pokemon Bla~ DS        2010 RPG      5.57      15.3 Biasa aja
## 2 Gran Turism~ PS2        2004 Raci~    3.01      11.7 Biasa aja
## 3 Pokemon Fir~ GBA        2004 RPG      4.34      10.5 Biasa aja
## 4 Super Mario~ N64        1996 Plat~    6.91      11.9 Biasa aja
## 5 Gran Turismo PS        1997 Raci~    4.02      11.0 Biasa aja
## 6 Animal Cros~ 3DS        2012 Simu~    2.01       9.09 Rugi
## 7 Mario Kart ~ N64        1996 Raci~    5.55       9.87 Rugi
## 8 Minecraft    X360       2013 Misc     5.58       9.2 Rugi
## 9 Just Dance 2 Wii        2010 Misc     5.84       9.52 Rugi
## 10 New Super M~ 3DS        2012 Plat~    3.66       9.82 Rugi
## 11 Super Mario~ NES        1985 Plat~   29.1      40.2 Untung
## 12 Mario Kart ~ DS        2005 Raci~    9.81      23.4 Untung
## 13 Wii Play     Wii        2006 Misc    14.0      29.0 Untung
## 14 Wii Sports ~ Wii        2009 Spor~   15.8       33 Untung
## 15 Mario Kart ~ Wii        2008 Raci~   15.8      35.8 Untung
```

9. Tampilkan rata-rata dan jumlah dari global_sales dikelompokkan berdasarkan platform! (12%)

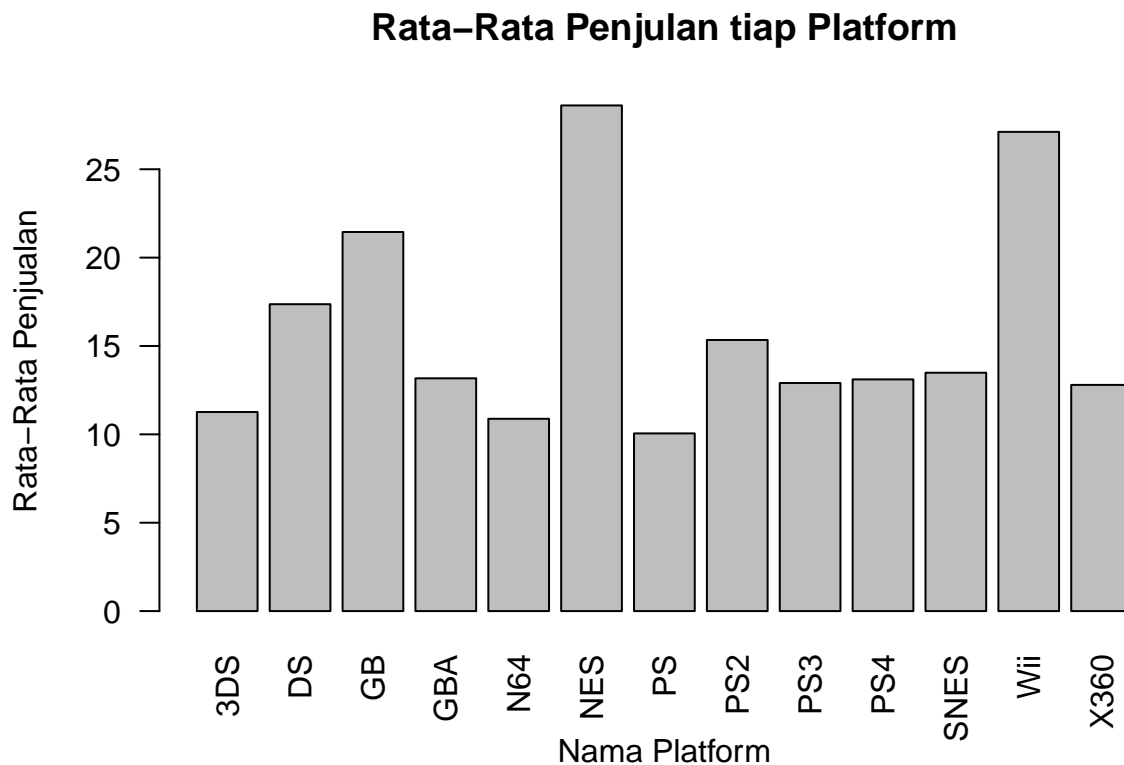
```
# Jawaban no. 9
RataanTotal_by_platform <- video_game_sales %>%
  group_by(platform) %>%
  summarise(
    rata.rata = mean(global_sales),
    jumlah = sum(global_sales)
  )

RataanTotal_by_platform
```

```
## # A tibble: 13 x 3
##   platform rata.rata jumlah
##   <fct>      <dbl> <dbl>
## 1 3DS          11.3   67.6
## 2 DS           17.4  191
## 3 GB           21.4  129.
## 4 GBA          13.2   26.3
## 5 N64          10.9   21.8
## 6 NES          28.6   85.8
## 7 PS           10.1   30.2
## 8 PS2          15.3   76.7
## 9 PS3          12.9  103.
## 10 PS4         13.1   26.2
## 11 SNES        13.5   40.5
## 12 Wii         27.1  298.
## 13 X360        12.8  166.
```

10. Lakukan visualisasi dengan barplot dengan sumbu x yaitu nama platformnya dan sumbu y yaitu rata-rata penjualan dari hasil nomor 9! (10%)

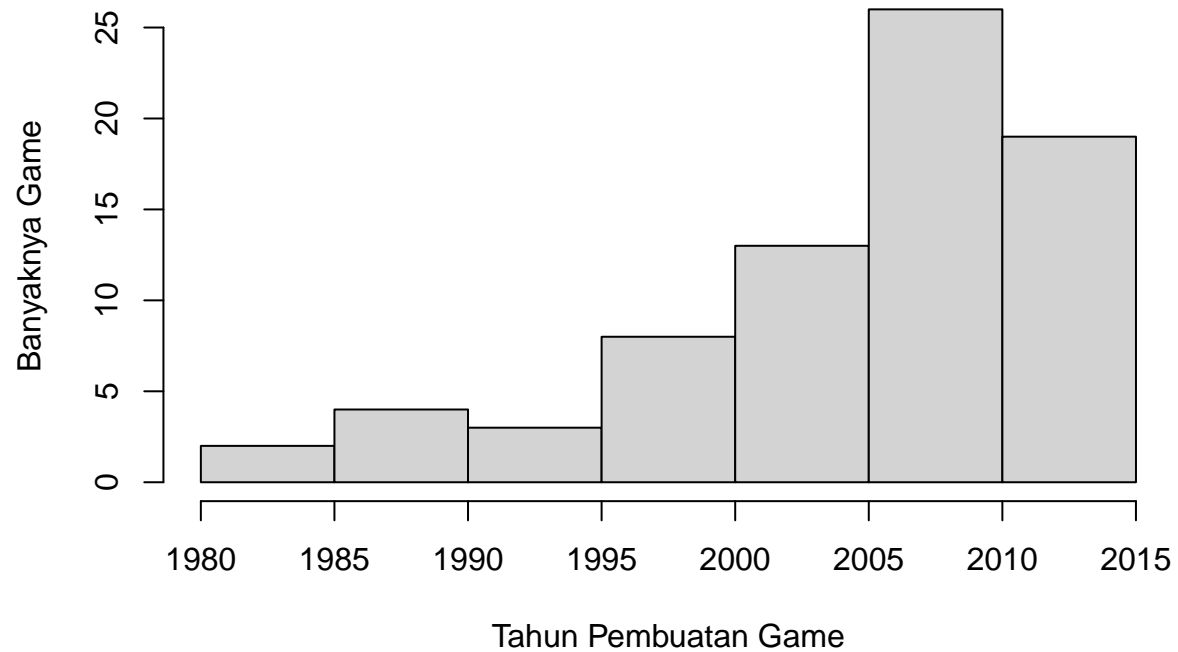
```
# Jawaban no. 10
barplot( RataanTotal_by_platform$rata.rata ~ RataanTotal_by_platform$platform,
  las = 2,
  xlab = "Nama Platform",
  ylab = "Rata-Rata Penjualan",
  main = "Rata-Rata Penjualan tiap Platform"
)
```



11. Buatlah histogram dengan sumbu x yaitu tahun pembuatan game dan sumbu y banyaknya game di tahun tersebut.
 Di bawah chunk tuliskan kesimpulan yang dapat diperoleh dari histogram yang kamu buat! (13%)

```
# Jawaban no. 11
hist(video_game_sales$year,
      xlab = "Tahun Pembuatan Game",
      ylab = "Banyaknya Game",
      main = "Banyaknya Pembuatan Game per Tahun"
)
```

Banyaknya Pembuatan Game per Tahun



Kesimpulan: Dapat dilihat pembuatan game paling banyak yaitu pada tahun 2005 sampai dengan 2015.

SELAMAT MENGERJAKAN