Zadanie

```
library(tidyverse)
```

```
-- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
v dplyr     1.1.2     v readr     2.1.4
v forcats   1.0.0     v stringr   1.5.0
v ggplot2   3.4.3     v tibble    3.2.1
v lubridate 1.9.2     v tidyr     1.3.0
v purrr     1.0.1
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to becor
```

```
library(nycflights13)
```

Zadanie 1

1. year - rok (typ danych to int)
2. month - miesiac (typ danych to int)
3. day - dzien (typ danych to int)
4. dep_time - czas odlotu (typ danych to int)
5. sched_dep_time - planowy czas odlotu (typ danych to int)
6. dep_delay - opoznienie odlotu (typ danych to double)
7. arr_time - czas przylotu (typ danych to int)
8. sched_arr_time - planowy czas przylotu (typ danych to int)
9. arr_delay - opoznienie przylotu (typ danych to double)
10. carrier - dwuliterowy skrot (typ danych to chr)
11. flight - numer lotu (typ danych to int)
12. tailnum - numer ogonowy samolotu (typ danych to chr)

13. origin - miejsce wylotu (typ danych to chr)
14. dest - miejsce przylotu (typ danych to chr)
15. air_time - czas lotu (typ danych to dbl)
16. distance - odleglosc (typ danych to dbl)
17. hour - godzina odlotu (typ danych to dbl)
18. minute - minuta odlotu (typ danych to dbl)
19. time_hour - zaplanowana data i godzina lotu jako data POSIXct (typ danych to dttm)

Zadanie 2

1.

```
flights |>
  filter(dep_delay >= 120) |>
  glimpse()
```

```
Rows: 9,888
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ day            <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 2, 2~
$ dep_time       <int> 848, 957, 1114, 1540, 1815, 1842, 1856, 1934, 1938, 194~
$ sched_dep_time <int> 1835, 733, 900, 1338, 1325, 1422, 1645, 1725, 1703, 170~
$ dep_delay      <dbl> 853, 144, 134, 122, 290, 260, 131, 129, 155, 157, 216, ~
$ arr_time       <int> 1001, 1056, 1447, 2020, 2120, 1958, 2212, 2126, 2109, 2~
$ sched_arr_time <int> 1950, 853, 1222, 1825, 1542, 1535, 2005, 1855, 1823, 18~
$ arr_delay      <dbl> 851, 123, 145, 115, 338, 263, 127, 151, 166, 174, 222, ~
$ carrier        <chr> "MQ", "UA", "UA", "B6", "EV", "EV", "AA", "MQ", "EV", "~
$ flight         <int> 3944, 856, 1086, 705, 4417, 4633, 181, 4255, 4300, 4410~
$ tailnum        <chr> "N942MQ", "N534UA", "N76502", "N570JB", "N17185", "N181~
$ origin         <chr> "JFK", "EWR", "LGA", "JFK", "EWR", "EWR", "JFK", "JFK",~
$ dest           <chr> "BWI", "BOS", "IAH", "SJU", "OMA", "BTV", "LAX", "BNA",~
$ air_time       <dbl> 41, 37, 248, 193, 213, 46, 336, 154, 68, 60, 121, 65, 1~
$ distance       <dbl> 184, 200, 1416, 1598, 1134, 266, 2475, 765, 277, 213, 7~
$ hour           <dbl> 18, 7, 9, 13, 13, 14, 16, 17, 17, 17, 16, 18, 17, 17, 2~
$ minute         <dbl> 35, 33, 0, 38, 25, 22, 45, 25, 3, 5, 30, 8, 0, 20, 0, 0~
$ time_hour      <dttm> 2013-01-01 18:00:00, 2013-01-01 07:00:00, 2013-01-01 0~
```

2.

```r
flights |>
  filter(dest %in% c("IAH", "HOU")) |>
  glimpse()
```

```
Rows: 9,313
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ day            <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ dep_time       <int> 517, 533, 623, 728, 739, 908, 1028, 1044, 1114, 1205, 1~
$ sched_dep_time <int> 515, 529, 627, 732, 739, 908, 1026, 1045, 900, 1200, 11~
$ dep_delay      <dbl> 2, 4, -4, -4, 0, 0, 2, -1, 134, 5, 10, -2, 6, 6, 0, 12,~
$ arr_time       <int> 830, 850, 933, 1041, 1104, 1228, 1350, 1352, 1447, 1503~
$ sched_arr_time <int> 819, 830, 932, 1038, 1038, 1219, 1339, 1351, 1222, 1505~
$ arr_delay      <dbl> 11, 20, 1, 3, 26, 9, 11, 1, 145, -2, 38, 0, 12, 19, -9,~
$ carrier        <chr> "UA", "UA", "UA", "UA", "UA", "UA", "UA", "UA", "UA", "~
$ flight         <int> 1545, 1714, 496, 473, 1479, 1220, 1004, 455, 1086, 1461~
$ tailnum        <chr> "N14228", "N24211", "N459UA", "N488UA", "N37408", "N122~
$ origin         <chr> "EWR", "LGA", "LGA", "LGA", "EWR", "EWR", "LGA", "EWR",~
$ dest           <chr> "IAH", "IAH", "IAH", "IAH", "IAH", "IAH", "IAH", "IAH",~
$ air_time       <dbl> 227, 227, 229, 238, 249, 233, 237, 229, 248, 221, 253, ~
$ distance       <dbl> 1400, 1416, 1416, 1416, 1400, 1400, 1416, 1400, 1416, 1~
$ hour           <dbl> 5, 5, 6, 7, 7, 9, 10, 10, 9, 12, 11, 12, 13, 13, 14, 15~
$ minute         <dbl> 15, 29, 27, 32, 39, 8, 26, 45, 0, 0, 58, 50, 0, 50, 30,~
$ time_hour      <dttm> 2013-01-01 05:00:00, 2013-01-01 05:00:00, 2013-01-01 0~
```

3.

```r
flights |>
  filter(carrier %in% c("UA", "AA", "DL")) |>
  glimpse()
```

```
Rows: 139,504
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ day            <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ dep_time       <int> 517, 533, 542, 554, 554, 558, 558, 558, 559, 559, 602, ~
$ sched_dep_time <int> 515, 529, 540, 600, 558, 600, 600, 600, 600, 600, 610, ~
$ dep_delay      <dbl> 2, 4, 2, -6, -4, -2, -2, -2, -1, -1, -8, -4, -4, 0, 11,~
```

```
$ arr_time       <int> 830, 850, 923, 812, 740, 753, 924, 923, 941, 854, 812, ~
$ sched_arr_time <int> 819, 830, 850, 837, 728, 745, 917, 937, 910, 902, 820, ~
$ arr_delay      <dbl> 11, 20, 33, -25, 12, 8, 7, -14, 31, -8, -8, -12, -8, -1~
$ carrier        <chr> "UA", "UA", "AA", "DL", "UA", "AA", "UA", "UA", "AA", "~
$ flight         <int> 1545, 1714, 1141, 461, 1696, 301, 194, 1124, 707, 1187,~
$ tailnum        <chr> "N14228", "N24211", "N619AA", "N668DN", "N39463", "N3AL~
$ origin         <chr> "EWR", "LGA", "JFK", "LGA", "EWR", "LGA", "JFK", "EWR",~
$ dest           <chr> "IAH", "IAH", "MIA", "ATL", "ORD", "ORD", "LAX", "SFO",~
$ air_time       <dbl> 227, 227, 160, 116, 150, 138, 345, 361, 257, 337, 170, ~
$ distance       <dbl> 1400, 1416, 1089, 762, 719, 733, 2475, 2565, 1389, 2227~
$ hour           <dbl> 5, 5, 5, 6, 5, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6~
$ minute         <dbl> 15, 29, 40, 0, 58, 0, 0, 0, 0, 0, 10, 10, 10, 7, 0, 15,~
$ time_hour      <dttm> 2013-01-01 05:00:00, 2013-01-01 05:00:00, 2013-01-01 0~
```

4.

```r
flights |>
  filter(arr_delay >= 120 & dep_delay == 0) |>
  glimpse()
```

```
Rows: 3
Columns: 19
$ year           <int> 2013, 2013, 2013
$ month          <int> 10, 5, 7
$ day            <int> 7, 23, 1
$ dep_time       <int> 1350, 1810, 905
$ sched_dep_time <int> 1350, 1810, 905
$ dep_delay      <dbl> 0, 0, 0
$ arr_time       <int> 1736, 2208, 1443
$ sched_arr_time <int> 1526, 2000, 1223
$ arr_delay      <dbl> 130, 128, 140
$ carrier        <chr> "EV", "MQ", "DL"
$ flight         <int> 5181, 4626, 1057
$ tailnum        <chr> "N611QX", "N525MQ", "N337NB"
$ origin         <chr> "LGA", "LGA", "LGA"
$ dest           <chr> "MSN", "CMH", "MIA"
$ air_time       <dbl> 117, 82, 183
$ distance       <dbl> 812, 479, 1096
$ hour           <dbl> 13, 18, 9
$ minute         <dbl> 50, 10, 5
$ time_hour      <dttm> 2013-10-07 13:00:00, 2013-05-23 18:00:00, 2013-07-01 09~
```

5.

```
flights |>
  filter(dep_delay >= 60 & air_time - arr_delay > 30) |>
  glimpse()
```

```
Rows: 11,141
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ day            <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ dep_time       <int> 826, 1114, 1120, 1301, 1337, 1400, 1540, 1548, 1549, 16~
$ sched_dep_time <int> 715, 900, 944, 1150, 1220, 1250, 1338, 1420, 1445, 1459~
$ dep_delay      <dbl> 71, 134, 96, 71, 77, 70, 122, 88, 64, 88, 82, 71, 91, 7~
$ arr_time       <int> 1136, 1447, 1331, 1518, 1649, 1645, 2020, 1751, 1912, 1~
$ sched_arr_time <int> 1045, 1222, 1213, 1345, 1531, 1502, 1825, 1620, 1656, 1~
$ arr_delay      <dbl> 51, 145, 78, 93, 78, 103, 115, 91, 136, 80, 96, 68, 61,~
$ carrier        <chr> "AA", "UA", "EV", "MQ", "B6", "EV", "B6", "MQ", "EV", "~
$ flight         <int> 443, 1086, 4495, 4646, 673, 4869, 705, 4588, 4181, 63, ~
$ tailnum        <chr> "N3GVAA", "N76502", "N16561", "N542MQ", "N636JB", "N748~
$ origin         <chr> "JFK", "LGA", "EWR", "LGA", "JFK", "LGA", "JFK", "LGA",~
$ dest           <chr> "MIA", "IAH", "SAV", "MSP", "LAX", "MEM", "SJU", "MSP",~
$ air_time       <dbl> 160, 248, 117, 170, 352, 178, 193, 167, 234, 159, 140, ~
$ distance       <dbl> 1089, 1416, 708, 1020, 2475, 963, 1598, 1020, 1092, 100~
$ hour           <dbl> 7, 9, 9, 11, 12, 12, 13, 14, 14, 14, 15, 16, 15, 16, 17~
$ minute         <dbl> 15, 0, 44, 50, 20, 50, 38, 20, 45, 59, 17, 0, 45, 30, 0~
$ time_hour      <dttm> 2013-01-01 07:00:00, 2013-01-01 09:00:00, 2013-01-01 0~
```

6.

```
flights |>
  arrange(desc(dep_delay)) |>
  glimpse()
```

```
Rows: 336,776
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 1, 6, 1, 9, 7, 4, 3, 6, 7, 12, 5, 1, 2, 5, 12, 12, 12, ~
$ day            <int> 9, 15, 10, 20, 22, 10, 17, 27, 22, 5, 3, 1, 10, 19, 19,~
$ dep_time       <int> 641, 1432, 1121, 1139, 845, 1100, 2321, 959, 2257, 756,~
$ sched_dep_time <int> 900, 1935, 1635, 1845, 1600, 1900, 810, 1900, 759, 1700~
```

```
$ dep_delay      <dbl> 1301, 1137, 1126, 1014, 1005, 960, 911, 899, 898, 896, ~
$ arr_time       <int> 1242, 1607, 1239, 1457, 1044, 1342, 135, 1236, 121, 105~
$ sched_arr_time <int> 1530, 2120, 1810, 2210, 1815, 2211, 1020, 2226, 1026, 2~
$ arr_delay      <dbl> 1272, 1127, 1109, 1007, 989, 931, 915, 850, 895, 878, 8~
$ carrier        <chr> "HA", "MQ", "MQ", "AA", "MQ", "DL", "DL", "DL", "DL", "~
$ flight         <int> 51, 3535, 3695, 177, 3075, 2391, 2119, 2007, 2047, 172,~
$ tailnum        <chr> "N384HA", "N504MQ", "N517MQ", "N338AA", "N665MQ", "N959~
$ origin         <chr> "JFK", "JFK", "EWR", "JFK", "JFK", "JFK", "LGA", "JFK",~
$ dest           <chr> "HNL", "CMH", "ORD", "SFO", "CVG", "TPA", "MSP", "PDX",~
$ air_time       <dbl> 640, 74, 111, 354, 96, 139, 167, 313, 109, 149, 112, 41~
$ distance       <dbl> 4983, 483, 719, 2586, 589, 1005, 1020, 2454, 762, 1085,~
$ hour           <dbl> 9, 19, 16, 18, 16, 19, 8, 19, 7, 17, 20, 18, 8, 17, 17,~
$ minute         <dbl> 0, 35, 35, 45, 0, 0, 10, 0, 59, 0, 55, 35, 30, 0, 25, 0~
$ time_hour      <dttm> 2013-01-09 09:00:00, 2013-06-15 19:00:00, 2013-01-10 1~
```

```
flights |>
  arrange(dep_time) |>
  glimpse()
```

```
Rows: 336,776
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 1, 1, 11, 12, 12, 12, 12, 2, 2, 3, 3, 3, 4, 4, 5, 5, 6,~
$ day            <int> 13, 31, 13, 16, 20, 26, 30, 11, 24, 8, 18, 19, 5, 10, 2~
$ dep_time       <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ sched_dep_time <int> 2249, 2100, 2359, 2359, 2359, 2359, 2359, 2100, 2245, 2~
$ dep_delay      <dbl> 72, 181, 2, 2, 2, 2, 2, 181, 76, 6, 153, 71, 2, 271, 26~
$ arr_time       <int> 108, 124, 442, 447, 430, 437, 441, 111, 121, 431, 247, ~
$ sched_arr_time <int> 2357, 2225, 440, 437, 440, 440, 437, 2225, 2354, 440, 2~
$ arr_delay      <dbl> 71, 179, 2, 10, -10, -3, 4, 166, 87, -9, 172, 75, 31, 2~
$ carrier        <chr> "B6", "WN", "B6", "B6", "B6", "B6", "B6", "WN", "B6", "~
$ flight         <int> 22, 530, 1503, 839, 1503, 1503, 839, 530, 608, 739, 97,~
$ tailnum        <chr> "N206JB", "N550WN", "N627JB", "N607JB", "N608JB", "N527~
$ origin         <chr> "JFK", "LGA", "JFK", "JFK", "JFK", "JFK", "JFK", "LGA",~
$ dest           <chr> "SYR", "MDW", "SJU", "BQN", "SJU", "SJU", "BQN", "MDW",~
$ air_time       <dbl> 41, 127, 194, 202, 182, 197, 198, 117, 56, 189, 234, 54~
$ distance       <dbl> 209, 725, 1598, 1576, 1598, 1598, 1576, 725, 273, 1617,~
$ hour           <dbl> 22, 21, 23, 23, 23, 23, 23, 21, 22, 23, 21, 22, 23, 19,~
$ minute         <dbl> 49, 0, 59, 59, 59, 59, 59, 0, 45, 55, 28, 50, 59, 30, 3~
$ time_hour      <dttm> 2013-01-13 22:00:00, 2013-01-31 21:00:00, 2013-11-13 2~
```

Zadanie 3

```
flights |>
  mutate(speed = distance / air_time * 60) |>
  arrange(desc(speed)) |>
  glimpse()
```

```
Rows: 336,776
Columns: 20
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 5, 7, 5, 3, 1, 11, 2, 11, 11, 11, 11, 11, 12, 2, 2, 11,~
$ day            <int> 25, 2, 13, 23, 12, 17, 21, 17, 16, 16, 17, 17, 5, 10, 1~
$ dep_time       <int> 1709, 1558, 2040, 1914, 1559, 650, 2355, 759, 2003, 234~
$ sched_dep_time <int> 1700, 1513, 2025, 1910, 1600, 655, 2358, 800, 1925, 235~
$ dep_delay      <dbl> 9, 45, 15, 4, -1, -5, -3, -1, 38, -10, -4, 1, -2, -2, 6~
$ arr_time       <int> 1923, 1745, 2225, 2045, 1849, 1059, 412, 1212, 17, 402,~
$ sched_arr_time <int> 1937, 1719, 2226, 2043, 1917, 1150, 438, 1255, 36, 440,~
$ arr_delay      <dbl> -14, 26, -1, 2, -28, -51, -26, -43, -19, -38, -38, -32,~
$ carrier        <chr> "DL", "EV", "EV", "EV", "DL", "DL", "B6", "AA", "DL", "~
$ flight         <int> 1499, 4667, 4292, 3805, 1902, 315, 707, 936, 347, 1503,~
$ tailnum        <chr> "N666DN", "N17196", "N14568", "N12567", "N956DL", "N376~
$ origin         <chr> "LGA", "EWR", "EWR", "EWR", "LGA", "JFK", "JFK", "JFK",~
$ dest           <chr> "ATL", "MSP", "GSP", "BNA", "PBI", "SJU", "SJU", "STT",~
$ air_time       <dbl> 65, 93, 55, 70, 105, 170, 172, 175, 173, 173, 173, 173,~
$ distance       <dbl> 762, 1008, 594, 748, 1035, 1598, 1598, 1623, 1598, 1598~
$ hour           <dbl> 17, 15, 20, 19, 16, 6, 23, 8, 19, 23, 8, 19, 19, 17, 18~
$ minute         <dbl> 0, 13, 25, 10, 0, 55, 58, 0, 25, 59, 55, 25, 0, 0, 55, ~
$ time_hour      <dttm> 2013-05-25 17:00:00, 2013-07-02 15:00:00, 2013-05-13 2~
$ speed          <dbl> 703.3846, 650.3226, 648.0000, 641.1429, 591.4286, 564.0~
```

Zadanie 4

```
flights |>
  filter(year == 2013) |>
  arrange(year, month, day) |>
  distinct(year, month, day) |>
  count(year, month, day) |>
  glimpse()
```

```
Rows: 365
Columns: 4
$ year  <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013~
$ month <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
$ day   <int> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 1~
$ n     <int> 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
```

Zadanie 5

```
flights |>
  arrange(distance) |>
  slice_tail(n = 10) |>
  glimpse()
```

```
Rows: 10
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 9, 9, 9, 9, 9, 9, 9, 9, 9, 9
$ day            <int> 18, 20, 21, 22, 23, 25, 27, 28, 29, 30
$ dep_time       <int> 953, 956, 954, 952, 955, 1001, 951, 955, 957, 959
$ sched_dep_time <int> 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1~
$ dep_delay      <dbl> -7, -4, -6, -8, -5, 1, -9, -5, -3, -1
$ arr_time       <int> 1447, 1441, 1426, 1439, 1437, 1508, 1442, 1412, 1405, 1~
$ sched_arr_time <int> 1445, 1445, 1445, 1445, 1445, 1445, 1445, 1445, 1445, 1~
$ arr_delay      <dbl> 2, -4, -19, -6, -8, 23, -3, -33, -40, -7
$ carrier        <chr> "HA", "HA", "HA", "HA", "HA", "HA", "HA", "HA", "HA", "~
$ flight         <int> 51, 51, 51, 51, 51, 51, 51, 51, 51, 51
$ tailnum        <chr> "N389HA", "N385HA", "N382HA", "N386HA", "N388HA", "N389~
$ origin         <chr> "JFK", "JFK", "JFK", "JFK", "JFK", "JFK", "JFK", "JFK",~
$ dest           <chr> "HNL", "HNL", "HNL", "HNL", "HNL", "HNL", "HNL", "HNL",~
$ air_time       <dbl> 632, 625, 605, 626, 616, 636, 629, 584, 580, 603
$ distance       <dbl> 4983, 4983, 4983, 4983, 4983, 4983, 4983, 4983, 4983, 4~
$ hour           <dbl> 10, 10, 10, 10, 10, 10, 10, 10, 10, 10
$ minute         <dbl> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
$ time_hour      <dttm> 2013-09-18 10:00:00, 2013-09-20 10:00:00, 2013-09-21 10~
```

```
flights |>
  arrange(distance) |>
  slice_head(n = 10) |>
  glimpse()
```

```
Rows: 10
Columns: 19
$ year           <int> 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2013, 2~
$ month          <int> 7, 1, 1, 1, 1, 1, 1, 1, 1, 1
$ day            <int> 27, 3, 4, 4, 4, 5, 6, 7, 8, 9
$ dep_time       <int> NA, 2127, 1240, 1829, 2128, 1155, 2125, 2124, 2127, 2126
$ sched_dep_time <int> 106, 2129, 1200, 1615, 2129, 1200, 2129, 2129, 2130, 21~
$ dep_delay      <dbl> NA, -2, 40, 134, -1, -5, -4, -5, -3, -3
$ arr_time       <int> NA, 2222, 1333, 1937, 2218, 1241, 2224, 2212, 2304, 2217
$ sched_arr_time <int> 245, 2224, 1306, 1721, 2224, 1306, 2224, 2224, 2225, 22~
$ arr_delay      <dbl> NA, -2, 27, 136, -6, -25, 0, -12, 39, -7
$ carrier        <chr> "US", "EV", "EV", "EV", "EV", "EV", "EV", "EV", "EV", "~
$ flight         <int> 1632, 3833, 4193, 4502, 4645, 4193, 4619, 4619, 4619, 4~
$ tailnum        <chr> NA, "N13989", "N14972", "N15983", "N27962", "N14902", "~
$ origin         <chr> "EWR", "EWR", "EWR", "EWR", "EWR", "EWR", "EWR", "EWR",~
$ dest           <chr> "LGA", "PHL", "PHL", "PHL", "PHL", "PHL", "PHL", "PHL",~
$ air_time       <dbl> NA, 30, 30, 28, 32, 29, 22, 25, 30, 27
$ distance       <dbl> 17, 80, 80, 80, 80, 80, 80, 80, 80, 80
$ hour           <dbl> 1, 21, 12, 16, 21, 12, 21, 21, 21, 21
$ minute         <dbl> 6, 29, 0, 15, 29, 0, 29, 29, 30, 29
$ time_hour      <dttm> 2013-07-27 01:00:00, 2013-01-03 21:00:00, 2013-01-04 12~
```

Zadanie 6

Tak, ma to znaczenie. Jeżeli najpierw użyjemy filter() a później arrange() to najpierw przefiltrujemy dane a następnie je posortujemy, ma to znaczenie bo i tak zależy nam na posortowanych przefiltrowanych danych więc lepiej będzie najpierw je przefiltrować żeby mieć mniejszy zbiór a następnie posortować ponieważ będzie ich mniej do sortowania.