

Частина 1.

Скріншот бази даних з вихідними даними

	<input type="checkbox"/> sport	<input type="checkbox"/> medal	<input type="checkbox"/> sex	<input type="checkbox"/> country_noc	<input type="checkbox"/> avg_height	<input type="checkbox"/> avg_weight	<input type="checkbox"/> timestamp
1	Athletics	Bronze	Male	ANZ	184	76	2025-06-13 16:54:34
2	Athletics	nan	Male	ANZ	171.25	65.5	2025-06-13 16:54:34
3	Boxing	nan	Male	ANZ	167	62	2025-06-13 16:54:34
4	Swimming	nan	Male	ANZ	170	65	2025-06-13 16:54:42
5	Swimming	Silver	Male	ANZ	170	65	2025-06-13 16:54:42
6	Swimming	Bronze	Male	ANZ	170	65	2025-06-13 16:54:42
7	Rugby	Gold	Male	ANZ	175	75	2025-06-13 16:54:42
8	Athletics	nan	Male	ANZ	170.83	66	2025-06-13 16:54:42
9	Rowing	nan	Male	ANZ	189	85	2025-06-13 16:54:48
10	Tennis	Bronze	Male	ANZ	188	84	2025-06-13 16:54:48
11	CyclingRoad	nan	Male	ARU	172.67	73.67	2025-06-13 16:55:10
12	Boxing	nan	Male	ARU	174.5	76	2025-06-13 16:55:10
13	Weightlifting	nan	Male	ARU	173.33	5179.33	2025-06-13 16:55:10
14	Athletics	nan	Female	ARU	162.4	56.8	2025-06-13 16:55:10
15	Swimming	nan	Male	ARU	180	73.5	2025-06-13 16:55:10
16	Athletics	nan	Male	ARU	179.5	73	2025-06-13 16:55:10
17	Judo	nan	Male	ARU	174.8	73.4	2025-06-13 16:55:10
18	ArtisticSwimming	nan	Female	ARU	166	58	2025-06-13 16:55:10
19	Swimming	nan	Female	ARU	169	57.67	2025-06-13 16:55:10

Скріншот вихідного топіку Kafka

```
|{"sport":"Athletics","medal":"nan","sex":"Female","country_noc":"BRN","avg_height":165.32,"avg_weight":52.68,"timestamp":"2025-06-13T16:56:00.254+02:00"}|
|{"sport":"Swimming","medal":"nan","sex":"Female","country_noc":"BEN","avg_height":167.0,"avg_weight":57.0,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Athletics","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":179.55,"avg_weight":73.68,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Judo","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":171.67,"avg_weight":72.33,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Taekwondo","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":170.5,"avg_weight":62.5,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Athletics","medal":"nan","sex":"Female","country_noc":"BEN","avg_height":166.7,"avg_weight":60.5,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Fencing","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":192.0,"avg_weight":96.0,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"CyclingRoad","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":180.0,"avg_weight":70.0,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Swimming","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":181.0,"avg_weight":78.33,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Boxing","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":167.85,"avg_weight":61.08,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Tennis","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":177.0,"avg_weight":66.0,"timestamp":"2025-06-13T16:56:05.085+02:00"}|
|{"sport":"Athletics","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":179.78,"avg_weight":74.13,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"CyclingRoad","medal":"nan","sex":"Male","country_noc":"BIZ","avg_height":174.8,"avg_weight":68.07,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"Shooting","medal":"nan","sex":"Male","country_noc":"BIZ","avg_height":170.17,"avg_weight":66.17,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"Judo","medal":"nan","sex":"Male","country_noc":"BEN","avg_height":172.5,"avg_weight":76.5,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"Athletics","medal":"nan","sex":"Female","country_noc":"BEN","avg_height":167.75,"avg_weight":61.0,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"Boxing","medal":"nan","sex":"Male","country_noc":"BIZ","avg_height":167.0,"avg_weight":51.0,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"Athletics","medal":"nan","sex":"Male","country_noc":"BIZ","avg_height":175.81,"avg_weight":66.81,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"Weightlifting","medal":"nan","sex":"Male","country_noc":"BIZ","avg_height":170.0,"avg_weight":67.0,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
|{"sport":"CyclingTrack","medal":"nan","sex":"Male","country_noc":"BIZ","avg_height":172.33,"avg_weight":75.0,"timestamp":"2025-06-13T16:56:10.097+02:00"}|
```

Частина 2

- LandingToBronze

```
09 UTC {spark_submit.py:579} INFO - 25/06/14 09:50:09 INFO CodeGenerator: Code generated in 66.488326 ms
09 UTC {spark_submit.py:579} INFO - 
09 UTC {spark_submit.py:579} INFO - |          edition|edition_id|country_noc|    sport|          event|result_id|    athlete|athlete_id|    pos|medal|isTeamSport|
09 UTC {spark_submit.py:579} INFO - |-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics| 100 metres, Men|    56265|Ernest Hutcheon|    64710|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics| 400 metres, Men|    56313|    Henry Murray|    64756|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics| 800 metres, Men|    56338|    Harvey Sutton|    64808|    3 h8 r1/2| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics| 800 metres, Men|    56338|    Guy Haskins|    922519|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics| 800 metres, Men|    56338|    Joseph Lynch|    64735|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics| 800 metres, Men|    56338|    Henry Murray|    64756|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics|1,500 metres, Men|    56349|    Joseph Lynch|    64735|    5 h2 r1/2| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics|1,500 metres, Men|    56349|    Charles Swain|    79576|    AC h3 r1/2| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics|1,500 metres, Men|    56349|    Guy Haskins|    922519|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - |1908 Summer Olympics|    5|    ANZ|Athletics|1,500 metres, Men|    56349|    George Blake|    64619|    DNS| NULL|    false|
09 UTC {spark_submit.py:579} INFO - only showing top 10 rows
09 UTC {spark_submit.py:579} INFO -
```

```
06 UTC {spark_submit.py:579} INFO - 25/06/14 09:58:06 INFO DAGScheduler: Job 2 finished: showString at NativeMethodAccessorImpl.java:0, took 0.469457 s
06 UTC {spark_submit.py:579} INFO - 25/06/14 09:58:06 INFO CodeGenerator: Code generated in 59.943673 ms
06 UTC {spark_submit.py:579} INFO - 
06 UTC {spark_submit.py:579} INFO - |athlete_id|          name|    sex|    born|height|weight|    country|country_noc|    description|    special_notes|
06 UTC {spark_submit.py:579} INFO - |-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
06 UTC {spark_submit.py:579} INFO - |    65649|    Ivanka Bonova|Female|    4 April 1949|    166|    55|    Bulgaria|    BUL|Personal Best: 40...|    NULL|
06 UTC {spark_submit.py:579} INFO - |    112510|    Nataliya Uryadova|Female|    15 March 1977|    184|    70|    Russian Federation|    RUS|    NULL|Listed in Olympia...|
06 UTC {spark_submit.py:579} INFO - |    114973|    Essa Ismail Rashed|    Male|    14 December 1986|    165|    55|    Qatar|    QAT|Personal Best: 10...|Listed in Olympia...|
06 UTC {spark_submit.py:579} INFO - |    30359|    Péter Boros|    Male|    12 January 1908|    NULL|    NULL|    Hungary|    HUN|Between 1927 and ...|
06 UTC {spark_submit.py:579} INFO - |    50557|    Rudolf Piowaty|    Male|    28 April 1900|    NULL|    NULL|    Czechoslovakia|    TCH|Rudolf Piowaty jo...|    NULL|
06 UTC {spark_submit.py:579} INFO - |    146111|    Svetlana Kholomina|Female|    9 November 1997|    NULL|    NULL|    ROC|    ROC|    NULL|
06 UTC {spark_submit.py:579} INFO - |    133841|    Vincent Riendeau|    Male|    13 December 1996|    178|    68|    Canada|    CAN|    NULL|Listed in Olympia...|
06 UTC {spark_submit.py:579} INFO - |    110425|    Tanja Morel|Female|    4 October 1975|    164|    58|    Switzerland|    SUI|    NULL|Listed in Olympia...|
06 UTC {spark_submit.py:579} INFO - |    110705|    Maksim Shabalin|    Male|    25 January 1982|    183|    76|    Russian Federation|    RUS|    NULL|Listed in Olympia...|
06 UTC {spark_submit.py:579} INFO - |    54541|    Gé Regter|    Male|    6 March 1916|    NULL|    NULL|    Netherlands|    NED|    NULL|
06 UTC {spark_submit.py:579} INFO - only showing top 10 rows
06 UTC {spark_submit.py:579} INFO -
```

- BronzeToSilver

```
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - 25/06/14 09:51:04 INFO BlockManagerInfo: Removed broadcast_10_piece0 on 172.28.0.7:43821 in memory (size: 25.7 KiB, free: 434.4 MiB)
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |          edition|edition_id|country_noc|    sport|          event|result_id|    athlete|athlete_id|    pos|medal|isTeamSport|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |1908SummerOlympics|    2|    BOH|    Tennis|    Singles,Women|    44057|    Hedvig Rosenbaum|    694|    3|Bronze|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |1912SummerOlympics|    6|    BOH|ArtCompetitions|    Sculpturing,Open|    928004|    Otakar Spaniel|    928179|    AC|    None|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |1908SummerOlympics|    22|    ANT|    Athletics|    4100metresRelay,Men|    63414|    James Browne|    64342|    6h3r13|    None|    true|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |2016SummerOlympics|    59|    BRN|    Swimming|    50metresFreestyle...|    356980|    Farhan Farhan|    132971|    58|    None|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |1992SummerOlympics|    23|    BIZ|    CyclingRoad|RoadRace,Individu...|    154755|    Douglas Lamb|    15213|    DNF|    None|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |2012SummerOlympics|    54|    BAR|    Swimming|    400metresIndividu...|    322007|    Bradley Ally|    103155|    25|    None|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |2004SummerOlympics|    26|    ALB|    Athletics|    HammerThrow,Men|    66256|    Dorian Gollaku|    105567|    30r12|    None|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |1936SummerOlympics|    11|    AFG|    Athletics|    ShotPut,Men|    58336|    Abdul Rahim|    64260|    ACr12|    None|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |1948SummerOlympics|    12|    AFG|    Football|    Football,Men|    33663|    Abdul Ghafoor Assar|    23867|    17|    None|    true|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - |2012SummerOlympics|    54|    AZE|    Boxing|    Heavyweight,Men|    305333|    Teymur Mammadov|    121605|    3|Bronze|    false|
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - only showing top 10 rows
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - 25/06/14 09:51:04 INFO FileSourceStrategy: Pushed Filters:
[2025-06-14, 09:51:04 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |athlete_id|          name|    sex|    born|height|weight|    country|country_noc|    description|    special_notes|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    52558|    JunichiKuriuzawa|    Male|    25February1965|    190|    75|    Japan|    JPN|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    36298|    PatWalter|    Male|    16February1959|    190|    87|    Canada|    CAN|PatWalterwongoldi...|Listed in Olympians...|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    119305|    MichaelWolff|    Male|    24January1981|    177|    80|    Germany|    GER|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    32630|    KonradAffolter|    Male|    17May1954|    187|    87|    Switzerland|    SUI|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    009095|    Lottababierg|Female|    9October1962|    177|    67|    Sweden|    SWE|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    38276|    MarcoAudisio|    Male|    29July1975|    183|    73|    Italy|    ITA|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    113858|    AnthonyWright|    Male|    3August1984|    174|    71|    Canada|    CAN|    None|    None|SonofLeeWrightSon...|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    25966|    ItzhakPeretz|    Male|    11February1953|    168|    73|    Israel|    ISR|ItzhakPeretzwasan...|BrotherinlawofAvi...|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    63683|    MoritsSkaugen|    Male|    27June1920|    191|    98|    Norway|    NOR|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - |    103007|    PreciousBede|Female|    18January1980|    180|    63|    Nigeria|    NGR|    None|    None|
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - only showing top 10 rows
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:50:48 UTC] {spark_submit.py:579} INFO - 25/06/14 09:50:48 INFO FileSourceStrategy: Pushed Filters: TblMetaTbl1[height] TblMetaTbl1[weight]
```

- SilverToGold

```
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - 25/06/14 09:51:38 INFO CodeGenerator: Code generated in 16.608511 ms
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |    sport|medal|    sex|country_noc|avg_height|avg_weight|    timestamp|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |-----|-----|-----|-----|-----|-----|-----|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |CrossCountrySkiing|    None|    Male|    ARM|    170.45|    67.14|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |Swimming|    None|    Male|    DEN|    189.68|    82.21|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |Shooting|    None|    Male|    GDR|    177.59|    76.63|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |IceHockey|    None|    Male|    SVK|    185.59|    98.62|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |FreestyleSkiing|    None|    Male|    GBR|    172.39|    70.06|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |Sailing|    None|    Male|    BER|    179.05|    81.48|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |Football|    None|    Male|    SWE|    182.77|    78.65|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |Swimming|    None|Female|    JOR|    168.2|    58.0|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |SkiJumping|    None|    Male|    SLO|    176.59|    60.83|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - |Handball|    None|    Male|    SWE|    189.36|    89.0|2025-06-14 09:51:...|
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - only showing top 10 rows
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - 
[2025-06-14, 09:51:38 UTC] {spark_submit.py:579} INFO - 25/06/14 09:51:38 INFO FileSourceStrategy: Pushed Filters: TblMetaTbl1[height] TblMetaTbl1[weight]
```

- Graph

