



**SQL**

**PROJECT**





# HUMAN DEVELOPMENT INDEX

The Human Development Index (HDI) is a composite measure that assesses a country's overall development and well-being by considering health, education, and standard of living.



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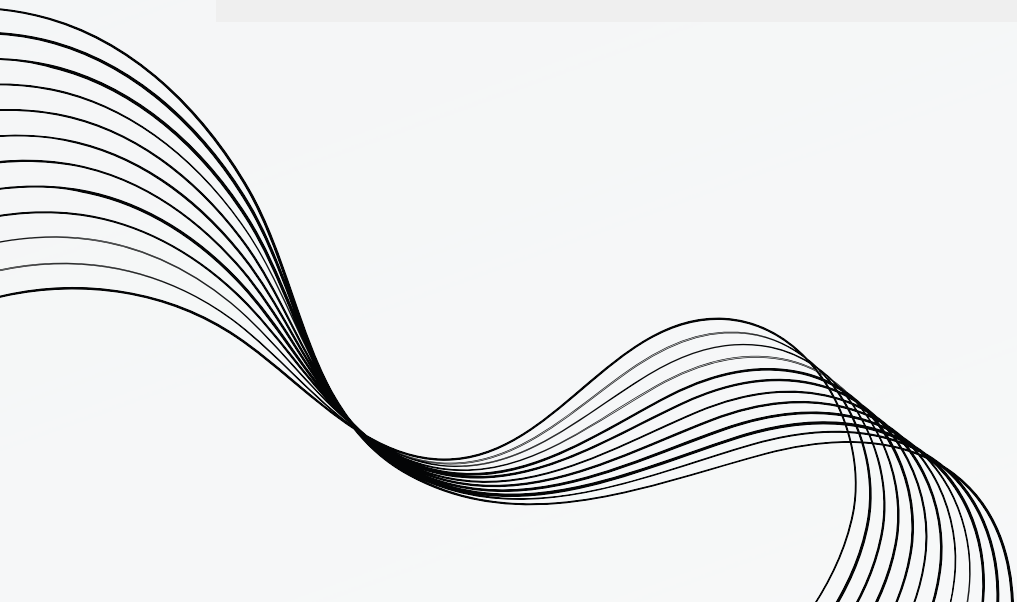
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# ABOUT DATASET

The Human Development Index (HDI) is the geometric mean of normalized indices for each of the three dimensions. The HDI is the geometric mean of normalized indices for each of the three dimensions. The scores for the three HDI dimension indices are then aggregated into a composite index using geometric mean. Using SQL this dataset we are trying to analyse and fetching queries Refer to Technical notes for more details in Kaggle.



# STUDY OF ATTRIBUTES

- Country
- Human Development
- Human Development Index (HDI)
- Life Expectancy at Birth
- Expected Years of Schooling
- Mean Years of Schooling
- Gross National Income
- GNI Per Capita Rank Minus HDI Rank
- HDI Rank





# Creation of Data Base and Loading Dataset

02 03 04

The screenshot displays a SQL IDE interface with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The active window is 'SQL File 6\*' containing the following SQL script:

```
1 • create database HD;
2 • use HD;
3 • select * from human_development_index_and_components;
4
```

Below the script editor is the 'Result Grid' showing the output of the query. The grid has columns for Country, HUMAN\_DEVELOPMENT, Human\_Development\_Index (HDI), Life\_expectancy\_at\_birth, Expected\_years\_of\_schooling, Mean\_years\_of\_schooling, Gross\_national\_income, and GNI\_per\_capita\_rank\_minus\_HI. The data is sorted by HDI in descending order.

	Country	HUMAN_DEVELOPMENT	Human_Development_Index (HDI)	Life_expectancy_at_birth	Expected_years_of_schooling	Mean_years_of_schooling	Gross_national_income	GNI_per_capita_rank_minus_HI
▶	Norway	VERY_HIGH	0.961	83.2	18.2	13	64,660	6
	Iceland	VERY_HIGH	0.959	82.7	19.2	13.8	55,782	11
	Switzerland	VERY_HIGH	0.962	84	16.5	13.9	66,933	5
	Hong Kong, China (SAR)	VERY_HIGH	0.952	85.5	17.3	12.2	62,607	6
	Australia	VERY_HIGH	0.951	84.5	21.1	12.7	49,238	18
	Denmark	VERY_HIGH	0.948	81.4	18.7	13	60,365	6
	Germany	VERY_HIGH	0.942	80.6	17	14.1	54,534	6
	Ireland	VERY_HIGH	0.945	82	18.9	11.6	76,169	-3
	Sweden	VERY_HIGH	0.947	83	19.4	12.6	54,489	9
	Netherlands	VERY_HIGH	0.941	81.7	18.7	12.6	55,979	3
	Singapore	VERY_HIGH	0.939	82.8	16.5	11.9	90,919	-10
	Finland	VERY_HIGH	0.94	82	19.1	12.9	49,452	11
	New Zealand	VERY_HIGH	0.937	82.5	20.3	12.9	44,057	16

At the bottom, the 'Output' pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
5	20:35:39	select * from human development index and components LIMIT 0. 1000	195 row(s) returned	0.000 sec / 0.000 sec

# QUERY-01

<div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>Limit to 1000 rows</div><div><div></div><div></div><div></div><div></div><div></div></div></div></div></div>						
<pre>/* fetch the deails  HUMAN DEVELOPMENT at very high */  select * from human_development_index_and_components where HUMAN_DEVELOPMENT = 'VERY_HIGH ';</pre>						
<div><div><div><div><div></div><div></div><div>Filter Rows:</div><div></div></div><div>Export: </div><div>Wrap Cell Content: </div></div></div></div>						
Rank	Country	HUMAN_DEVELOPMENT	Human_Development_Index (HDI)	Life_expectancy_at_birth	Expected_years_of_schooling	Mean_years_of_schooling
1	Switzerland	VERY_HIGH	0.962	84	16.5	13.9
2	Norway	VERY_HIGH	0.961	83.2	18.2	13
3	Iceland	VERY_HIGH	0.959	82.7	19.2	13.8
4	Hong Kong, China (SAR)	VERY_HIGH	0.952	85.5	17.3	12.2
5	Australia	VERY_HIGH	0.951	84.5	21.1	12.7
6	Denmark	VERY_HIGH	0.948	81.4	18.7	13
7	Sweden	VERY_HIGH	0.947	83	19.4	12.6
8	Ireland	VERY_HIGH	0.945	82	18.9	11.6
9	Germany	VERY_HIGH	0.942	80.6	17	14.1
10	Netherlands	VERY_HIGH	0.941	81.7	18.7	12.6
11	Finland	VERY_HIGH	0.94	82	19.1	12.9
12	Singapore	VERY_HIGH	0.939	82.8	16.5	11.9
13	Belgium	VERY_HIGH	0.937	81.9	19.6	12.4

# QUERY-02

The screenshot shows a MySQL IDE interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. Below the menu is a toolbar with various icons. The tab bar shows four tabs: sqlproject\*, SQL File 4\*, HUMAN SQL PROJECT\*, and SQL File 6\* (which is the active tab). Below the tabs is another toolbar with icons for file operations and a dropdown menu set to 'Limit to 1000 rows'. The main text area contains a SQL query with line numbers 7 through 12. The query is as follows:

```
7  
8  
9  /* fetch the least 5 country from dataset on the basis of HDI RANK */  
10 • select Country from human_development_index_and_components ORDER BY HDI_rank desc limit 5;  
11  
12
```

Below the query editor is a toolbar with options for 'Result Grid', 'Filter Rows' (with a search input), 'Export', 'Wrap Cell Content', and 'Fetch rows'. The 'Result Grid' is currently selected, displaying a table with the following data:

	Country
►	Somalia
	Nauru
	Monaco
	Korea (Democratic People's Rep. of)
	South Sudan



# QUERY-03

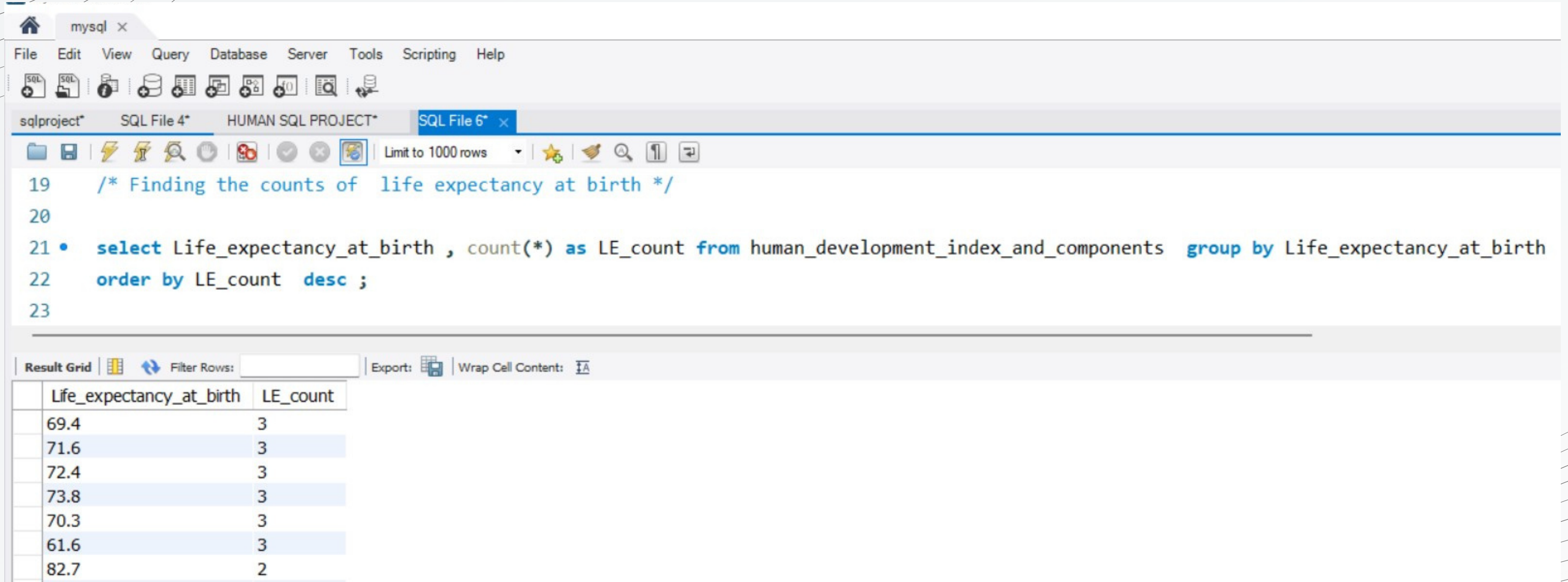
The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. Below the menu is a toolbar with various icons. The tab bar shows four tabs: sqlproject\*, SQL File 4\*, HUMAN SQL PROJECT\*, and SQL File 6\* (which is the active tab). Below the tabs is another toolbar with icons for file operations and a dropdown menu set to 'Limit to 1000 rows'. The main text area contains the following SQL query:

```
12  /* fetching the categories included in the human developement by using DISTINCT function */
13
14  •  select distinct HUMAN_DEVELOPMENT from human_development_index_and_components;
15
16
```

Below the query editor is a horizontal bar with 'Result Grid' selected, a 'Filter Rows' input field, and buttons for 'Export' and 'Wrap Cell Content'. The results are displayed in a table with one column, 'HUMAN\_DEVELOPMENT', and five rows: 'VERY\_HIGH', 'HIGH', 'MEDIUM', 'LOW', and 'OTHER'. The 'VERY\_HIGH', 'HIGH', and 'LOW' rows are highlighted with a light blue background.

HUMAN_DEVELOPMENT
VERY_HIGH
HIGH
MEDIUM
LOW
OTHER

# QUERY-04



The screenshot shows a MySQL IDE interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The toolbar contains various icons for file operations, database management, and query execution. The main window displays a SQL query in a file named 'SQL File 6\*'. The query is as follows:

```
19  /* Finding the counts of life expectancy at birth */
20
21  • select Life_expectancy_at_birth , count(*) as LE_count from human_development_index_and_components group by Life_expectancy_at_birth
22  order by LE_count desc ;
23
```

Below the query editor, the 'Result Grid' is visible, showing the results of the query. The grid has two columns: 'Life\_expectancy\_at\_birth' and 'LE\_count'. The results are as follows:

Life_expectancy_at_birth	LE_count
69.4	3
71.6	3
72.4	3
73.8	3
70.3	3
61.6	3
82.7	2

# QUERY-05

MySQL Workbench

mysql x

File Edit View Query Database Server Tools Scripting Help

sqlproject\* SQL File 4\* HUMAN SQL PROJECT\* SQL File 6\* x

Limit to 1000 rows

```
23
24
25  /* fetching the maximum Gross national income ( GNI ) */
26 •  select max(Gross_national_income) from human_development_index_and_components;
27
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

	max(Gross_national_income)
▶	966



# QUERY-06

MySQL Workbench

mysql x

Edit View Query Database Server Tools Scripting Help

SQL File 4\* HUMAN SQL PROJECT\* SQL File 6\* x

Limit to 1000 rows

```
18 /* fetching the country, HDI_rank, HUMAN_DEVELOPMENT, Expected_years_of_schooling and Life_expectancy_at_birth where the country name
19 included the letter 's'and life expectancy at birth above 82 */
50 • select country ,HDI_rank, HUMAN_DEVELOPMENT,Expected_years_of_schooling,Life_expectancy_at_birth from human_development_index_and_components
51 where Life_expectancy_at_birth > 82 and country like '%s%';
52
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

country	HDI_rank	HUMAN_DEVELOPMENT	Expected_years_of_schooling	Life_expectancy_at_birth
Switzerland	3	VERY_HIGH	16.5	84
Hong Kong, China (SAR)	4	VERY_HIGH	17.3	85.5
Australia	5	VERY_HIGH	21.1	84.5
Sweden	9	VERY_HIGH	19.4	83
Singapore	10	VERY_HIGH	16.5	82.8
Liechtenstein	14	VERY_HIGH	15.2	83.3
Israel	22	VERY_HIGH	16.1	82.3
Spain	27	VERY_HIGH	17.9	83

# QUERY-07

```
33  /* fectching the count of human developement
34  categories using sub queries */
35
36  •  select HUMAN_DEVELOPMENT, COUNT(*) as hd_count from
37  (
38      select HUMAN_DEVELOPMENT
39      from human_development_index_and_components
40  ) as subquery
41  group by HUMAN_DEVELOPMENT
42  order by HUMAN_DEVELOPMENT desc;
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	HUMAN_DEVELOPMENT	hd_count			
▶	VERY_HIGH	66			
	OTHER	4			
	MEDIUM	44			
	LOW	32			



# QUERY-08

SQL Workbench

mysql x

Edit View Query Database Server Tools Scripting Help

SQL File 4\* HUMAN SQL PROJECT\* SQL File 6\* x

Limit to 1000 rows

```
/* fetching the countries with their corresponding human development level which has less life expectancy than the highest life expectancy at birth. */
• select Country,HUMAN_DEVELOPMENT from human_development_index_and_components
where life_expectancy_at_birth < (select max(life_expectancy_at_birth)
from human_development_index_and_components);
```

ult Grid | Filter Rows: | Export: | Wrap Cell Content: |

Country	HUMAN_DEVELOPMENT
Norway	VERY_HIGH
Iceland	VERY_HIGH
Switzerland	VERY_HIGH
Hong Kong, China (SAR)	VERY_HIGH
Australia	VERY_HIGH
Denmark	VERY_HIGH
Germany	VERY_HIGH
Ireland	VERY_HIGH
Sweden	VERY_HIGH
Netherlands	VERY_HIGH
Singapore	VERY_HIGH

# CONCLUSION

*The SQL queries conducted on the HDI dataset reveal that these countries with very high HDI scores demonstrate commendable levels of human development, characterized by longer life expectancies, strong education systems, and relatively high economic well-being. These findings can serve as a valuable reference for policymakers and stakeholders interested in understanding and promoting human development on a global scale.*

