

# Análisis del carácter material en el Desempeño del taekwondo internacional.

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# Introducción

- El taekwondo tiene sus orígenes en artes de guerra koreanas por el año **50 d.C.**
- Entre **1910-1945**, la invasión imperialista japonesa prohíbe el taekkyon, Kung-Fu y otras artes marciales en los países asiáticos invadidos.



- El general Choi Hong Hi crea el taekwondo en **1955**, como método de entrenamiento para el ejército.
- Se convirtió en deporte de medalla oficial en los Juegos olímpicos de Sídney 2000.

# Objetivos generales

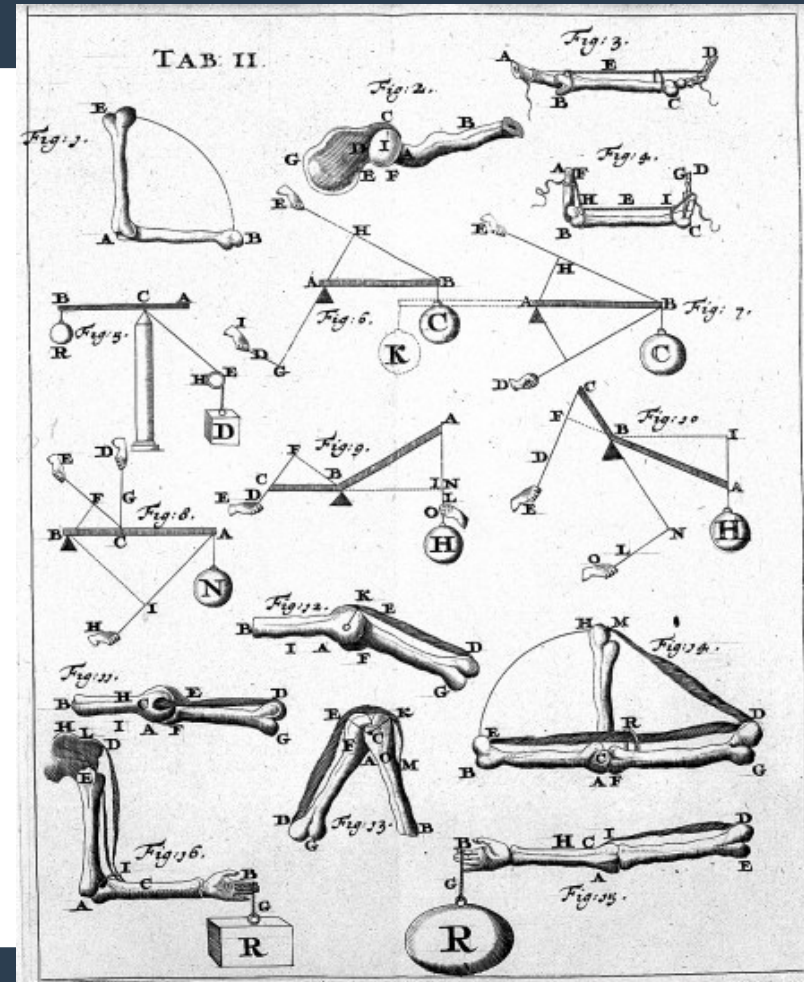
## Meta a largo plazo

- **Predecir a los ganadores de los juegos olímpicos del 2024:**

Identificar, mediante el estudio de base de datos, las variables determinantes para que los taekwondoinos obtengan una medalla olímpica.

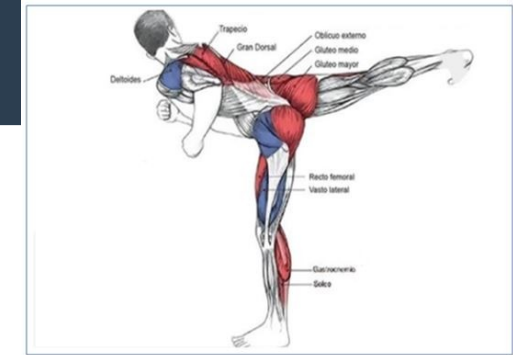
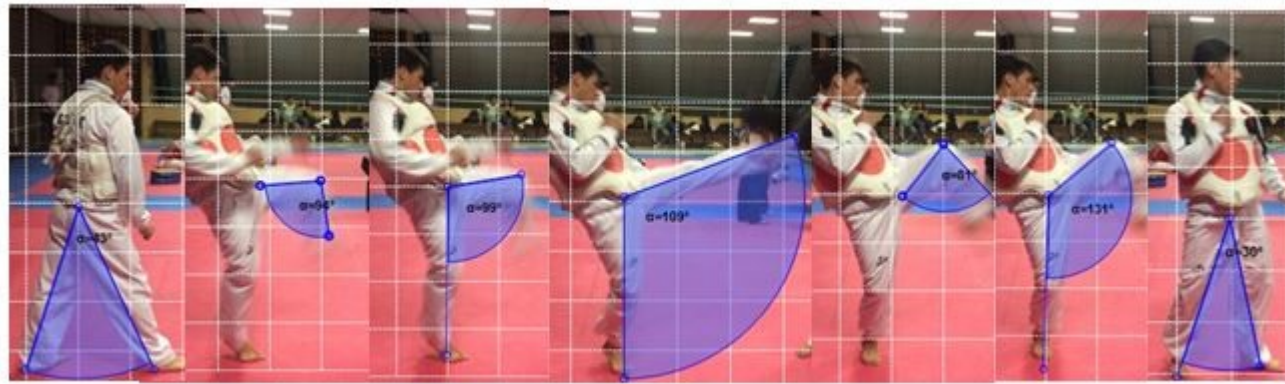
# Desarrollo de la idea

Los principales estudios  
en deportes tratan sobre  
bío-mecánica

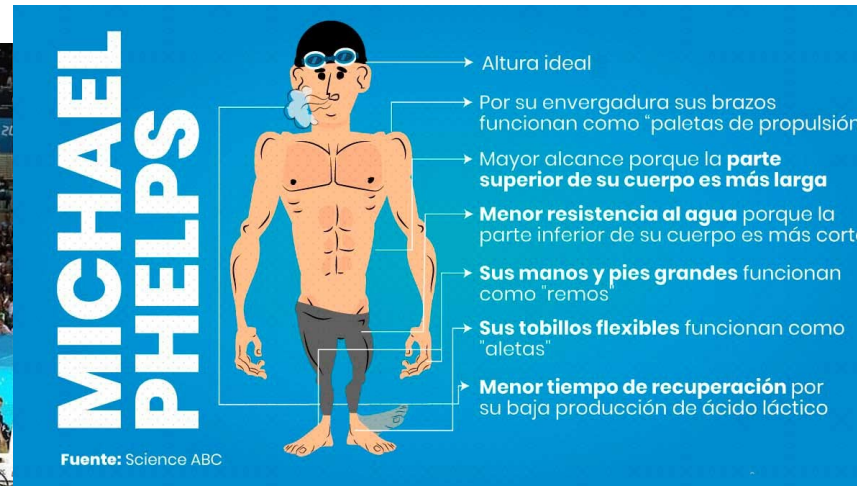
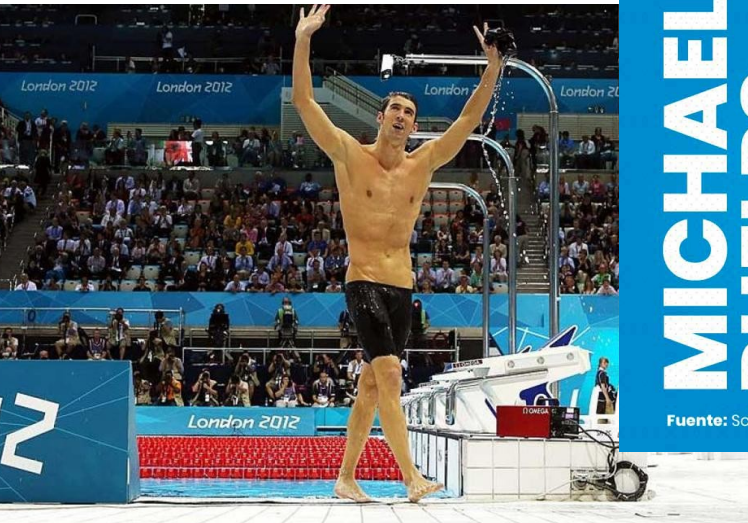




# Desarrollo de la idea

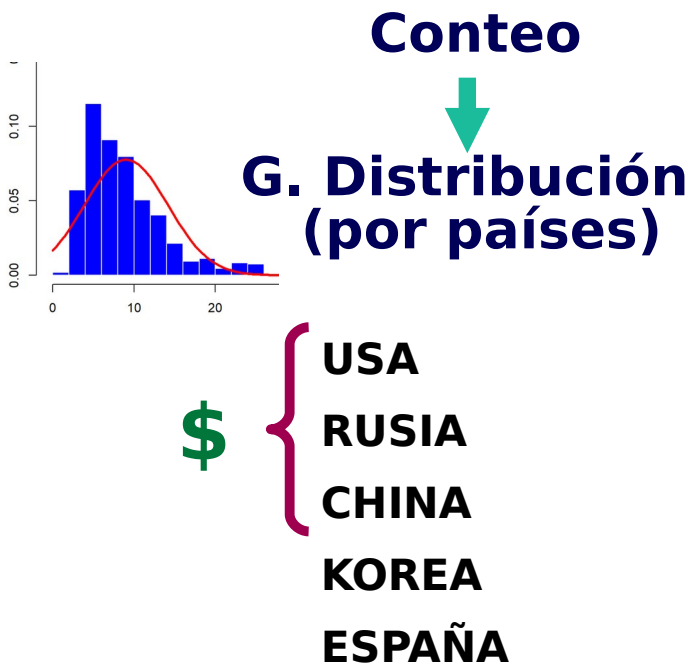


Kristoff Milak



# Propuesta: estudiar nuevas variables

- Apoyo estatal**



- Experiencia**



# Ranking

## WTF

(Puntos del torneo)(grado del competidor)

1er lugar, 10 puntos.

2do, (0.6) 10

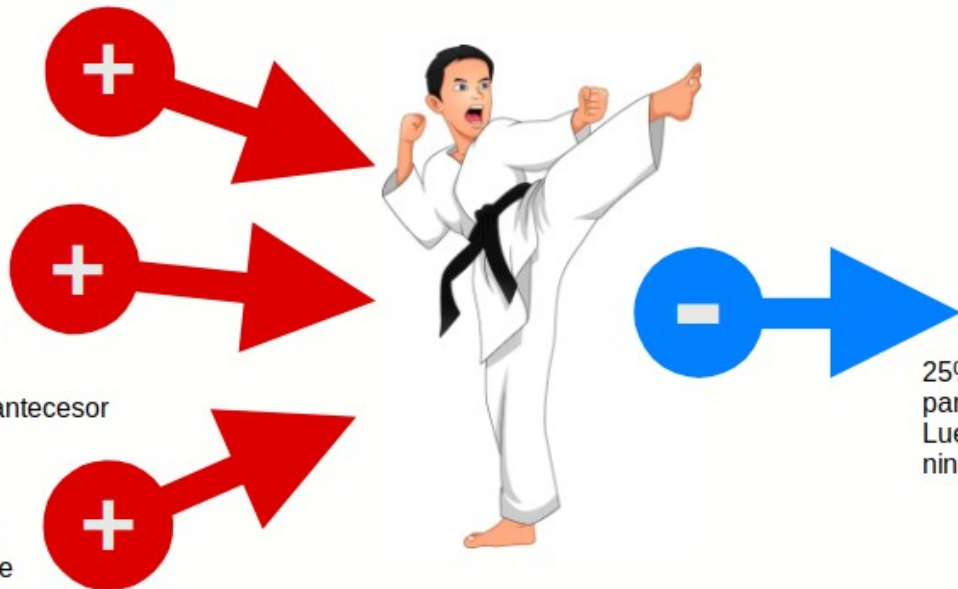
3er, (0.6) (0.6) 10

4to, (0.6) (0.6) (0.6) 10

5to, (0.7) (0.6) (0.6) (0.6) 10

... a partir de aquí (0.7) del antecesor

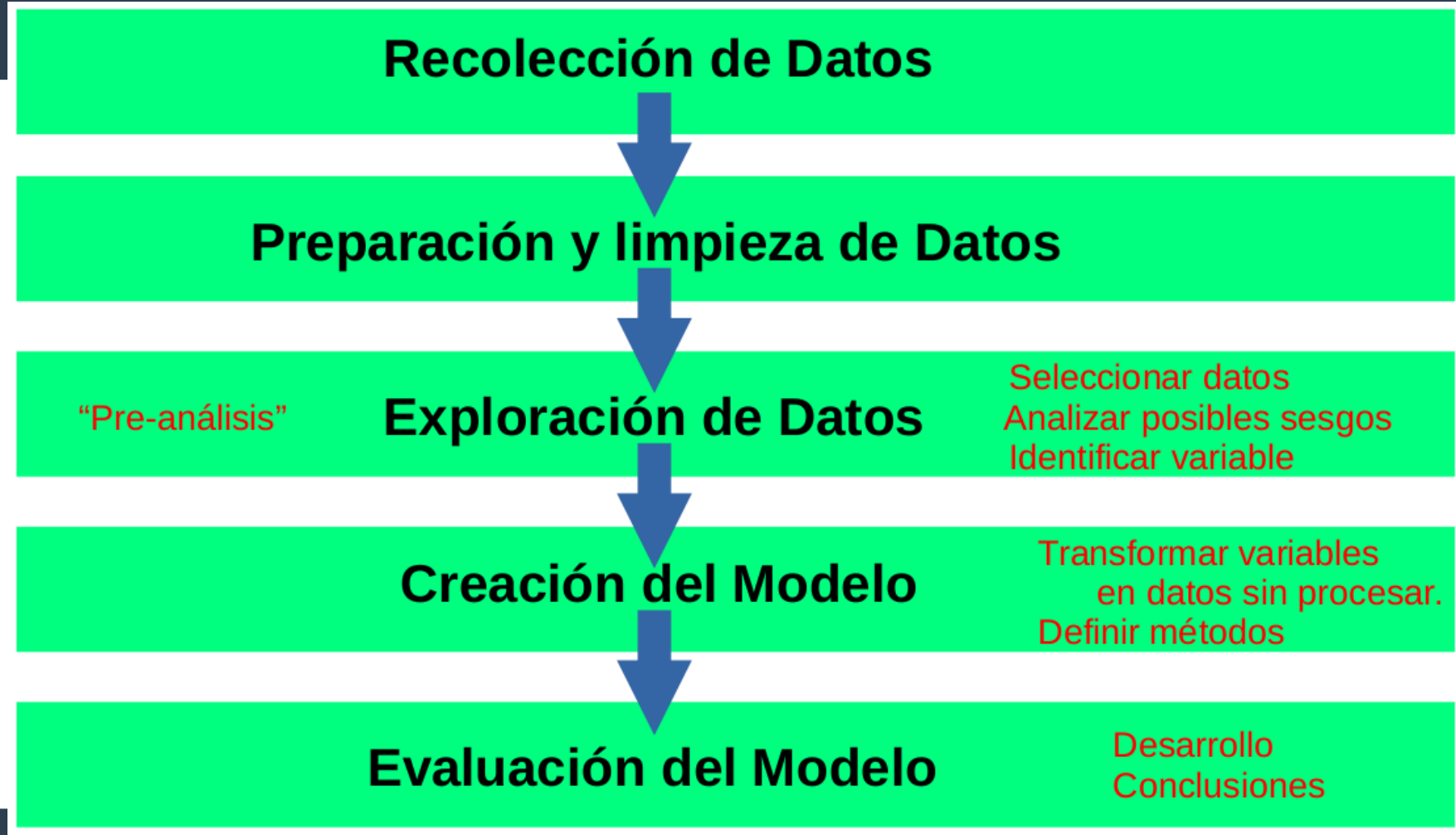
50% de los puntos que  
gano en su categoría de  
peso anterior (en los  
últimos 4 años)



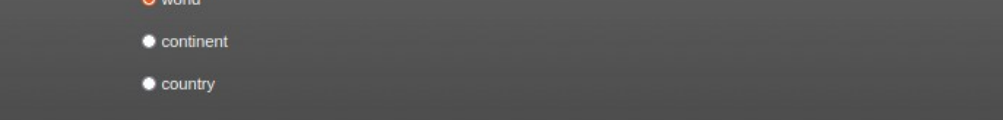
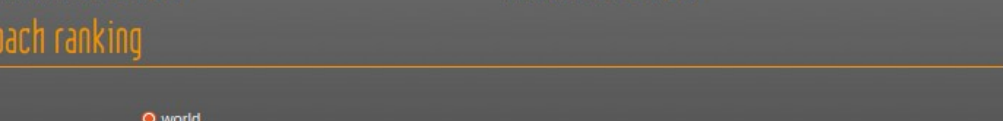
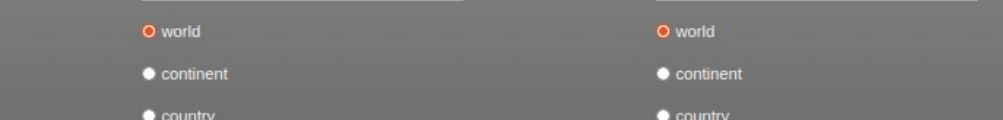
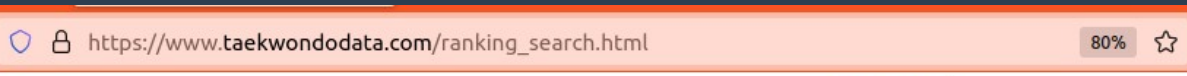
25% de los puntos cada año a  
partir de ser contabilizados.  
Luego de 4 años no quedara  
ningún punto.



# Estructura del proyecto

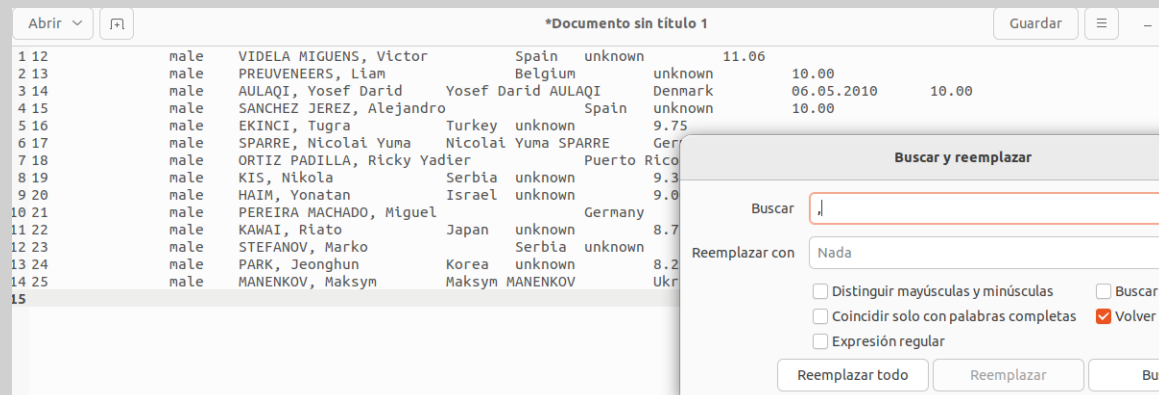


# Recolección de datos

A screenshot of the Taekwondo Data website ranking page. The page shows a list of athletes with their rank, country flag, name, gender, country, date of birth, and score. The list includes athletes from Spain, Belgium, Denmark, Germany, Turkey, Puerto Rico, Serbia, Israel, Germany, Japan, Korea, and Ukraine. Some athletes have profile pictures, while others do not.

12		♂	VIDELA MIGUENS, Victor	Spain	unknown	11.06
13		♂	PREUVENEERS, Liam	Belgium	unknown	10.00
14		♂	AULAQI, Yosef Darid		Denmark	06.05.2010 10.00
15		♂	SANCHEZ JEREZ, Alejandro	Spain	unknown	10.00
16		♂	EKINCI, Tugra	Turkey	unknown	9.75
17		♂	SPARRE, Nicolai Yuma		Germany	02.06.2009 9.63
18		♂	ORTIZ PADILLA, Ricky Yadier	Puerto Rico	unknown	9.50
19		♂	KIS, Nikola	Serbia	unknown	9.38
20		♂	HAIM, Yonatan	Israel	unknown	9.00
21		♂	PEREIRA MACHADO, Miguel	Germany	unknown	9.00
22		♂	KAWAI, Riato	Japan	unknown	8.75
23		♂	STEFANOV, Marko	Serbia	unknown	8.25
24		♂	PARK, Jeonghun	Korea	unknown	8.25
25		♂	MANENKOV, Maksym		Ukraine	13.03.2006 8.10

# Limpieza de datos



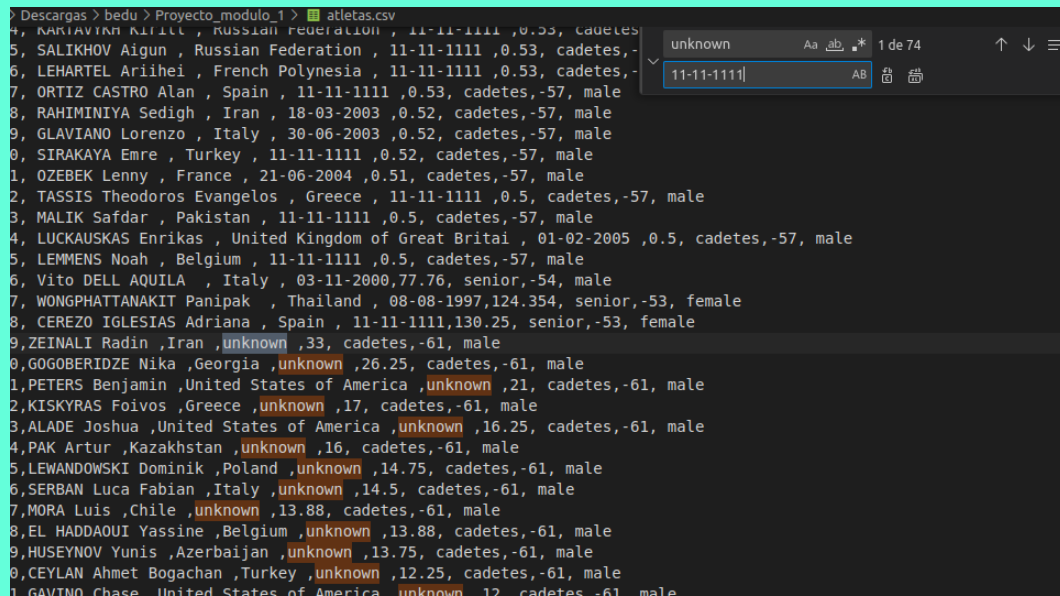
Gedit para quitar imágenes  
y reemplazar algunos caracteres

The screenshot shows a spreadsheet with columns A through I. Rows 3594 through 3615 are highlighted in red. The data includes athlete names, countries, and various numerical values.

A	B	C	D	E	F	G	H	I
3594	FAAHU Roonui	French Polynesia	unknown	5.13	cadetes	-61	male	
3595	PERRI Alessandro	Italy	unknown	5	cadetes	-61	male	
3596	BILGIN Abdullah	Germany	unknown	5	cadetes	-61	male	
3597	MACHADO LEITE Allan Henrique	Brazil	unknown	5	cadetes	-61	male	
3598	GITISH	India	unknown	5	cadetes	-61	male	
3599	JAKELAITIS Nojus	Lithuania	unknown	5	cadetes	-61	male	
3600	MOHAMED ROSHDY Moaz	Egypt	03.12.2008	4.88	cadetes	-61	male	
3601	FJALKOWSKI Marcel	Poland	unknown	4.88	cadetes	-61	male	
3602	ROSENBERG Philip	Sweden	unknown	4.75	cadetes	-61	male	
3603	VUKOTIC Danilo	Bosnia and Herzegovina	unknown	4.75	cadetes	-61	male	
3604	CARTWRIGHT Max	United Kingdom of Great Britain	unknown	4.75	cadetes	-61	male	
3605	KHABAROV Danila	Spain	unknown	4.75	cadetes	-61	male	
3606	HARDIENIN Makari	Ukraine	unknown	4.5	cadetes	-61	male	
3607	PIECZYNSKI Patryk	Poland	unknown	4.38	cadetes	-61	male	
3608	MARAETFAU Raimanutea	French Polynesia	unknown	4.38	cadetes	-61	male	
3609	BENNETT Matteo	Canada	unknown	4.25	cadetes	-61	male	
3610	SIEVERT Dennis	Germany	unknown	4.25	cadetes	-61	male	
3611	VITKOVIC Nikola	Serbia	unknown	4.25	cadetes	-61	male	
3612	PETSAS Dimitrios	Greece	unknown	4	cadetes	-61	male	
3613	ERGUN Eser	Germany	unknown	4	cadetes	-61	male	
3614					cadetes	-61	male	
3615					cadetes	-61	male	

Hoja de cálculo para organiza:  
agregar y eliminar  
filas y columnas

## Visual Studio Code



# Exploración de datos

## Descarga y Construcción de 4 tablas

Gestor de datos:  
MySQL- Workbench

Variables principales:

País  
Puntos en el Ranking

atletas	
Id	INT
name	TEXT
nation	TEXT
day of birth	DATETIME
points	DOUBLE
category	TEXT
weight	TEXT
gender	TEXT

27627 registros

coach_athetas	
anio	INT
tournament	TEXT
city	TEXT
medal	TEXT
atleta	TEXT
gender	TEXT
peso	INT
cat	TEXT
coach	TEXT

2005 registros

coach	
Id_coach	INT
gender	TEXT
name	TEXT
country	TEXT
birthday	DATETIME
points	DOUBLE

1495 registros

J_olimpicos	
anio	INT
medalla	TEXT
peso	TEXT
genero	TEXT
atleta	TEXT
pais	TEXT
birthday	DATETIME
Taekwondold	TEXT

177 registros

C\_A

pruebita

corazon

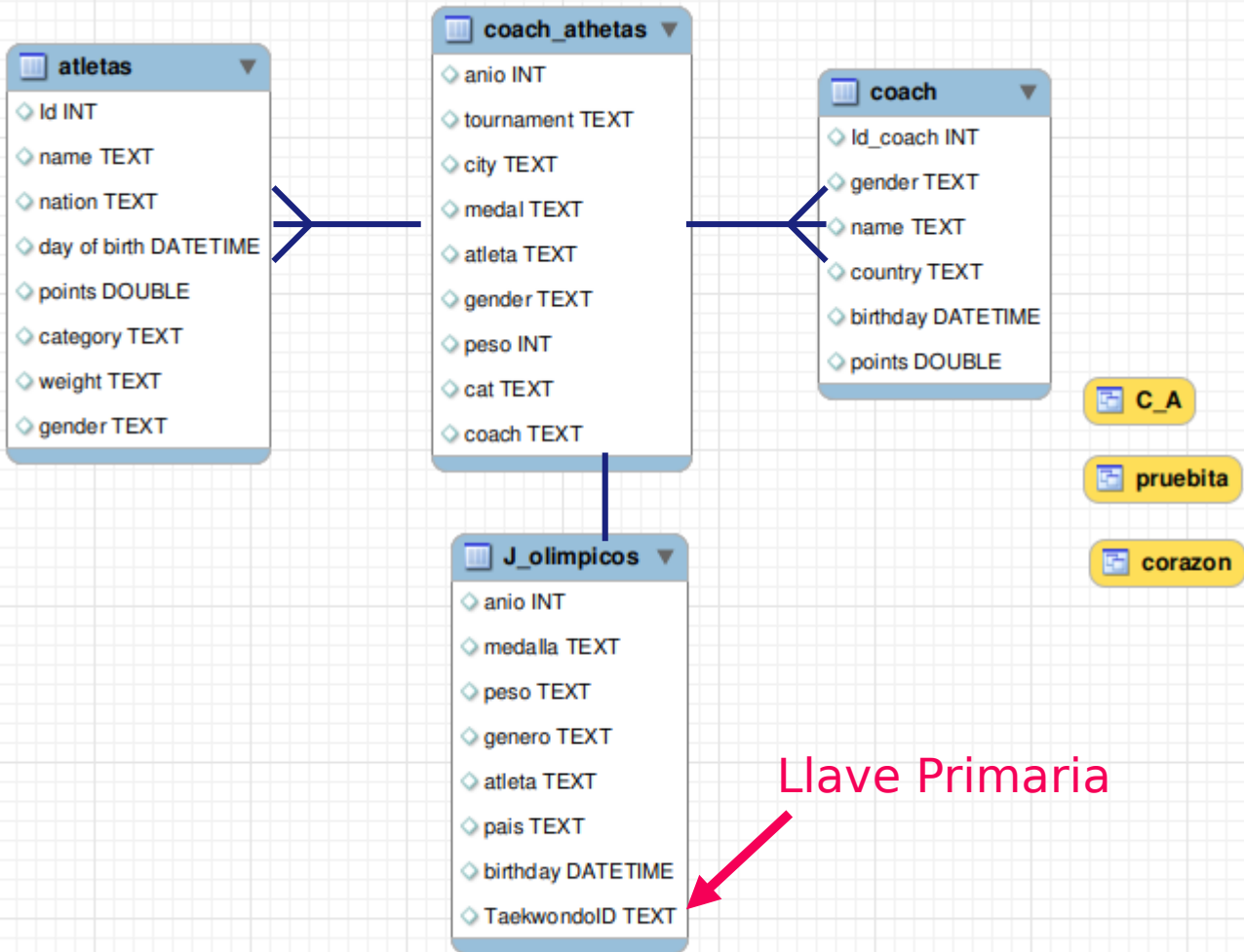
# Exploración de datos

Descarga y Construcción  
de 4 tablas

Gestor de datos:  
MySQL- Workbench

Variables principales:

País  
Puntos en el Ranking





# Exploración de datos: posibles de sesgos

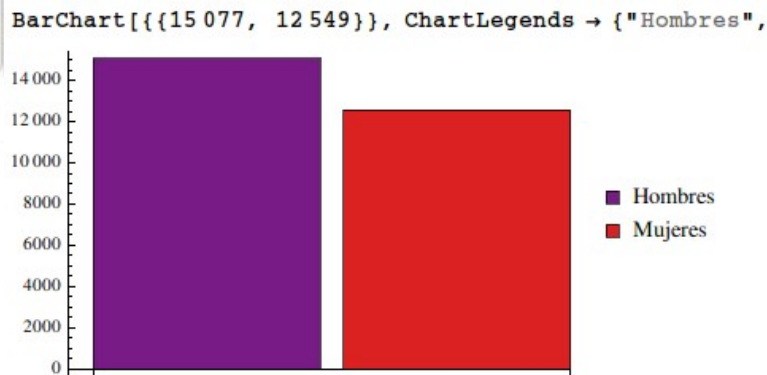
Tablas	Características		
Atletas	<u>H/M</u>	Edad	categorías
<u>Coach</u>	<u>H/M</u>	Edad	
<u>J_olimpicos</u>	<u>H/M</u>	Edad	categorías

# Exploración de datos: posibles de sesgos

```
1 • select count(Id) as número, gender from atletas group by gender;
```

Result Grid  Filter Rows: 

#	número	gender
1	15077	male
2	12549	female



```
2 • select count(TaekwondoID) as número, genero from J_olimpicos group by genero;
```

Result Grid  Filter Rows: 

#	número	genero
1	88	male
2	88	female



# Exploración de datos: posibles de sesgos

```
3 • select count(Id_coach), gender from coach group by gender;
```

Result Grid



Filter Rows:



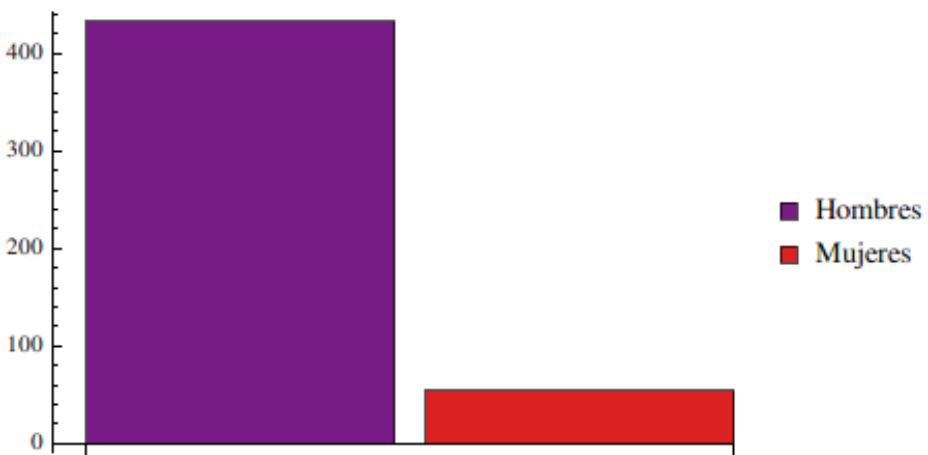
#	count(Id_coach)	gender
---	-----------------	--------

1	433	male
---	-----	------

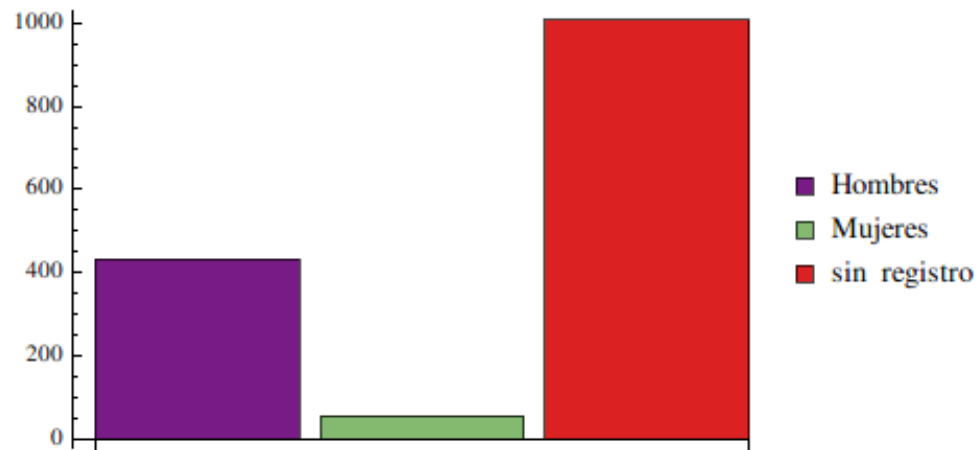
2	54	female
---	----	--------

3	1008	
---	------	--

BarChart[{{433, 54}}, ChartLegends → {"Hombres", "Mujeres"}]




BarChart[{{433, 54, 1008}}, ChartLegends → {"Hombres", "Mujeres", "sin registro"}]



# Exploración de datos: posibles de sesgos

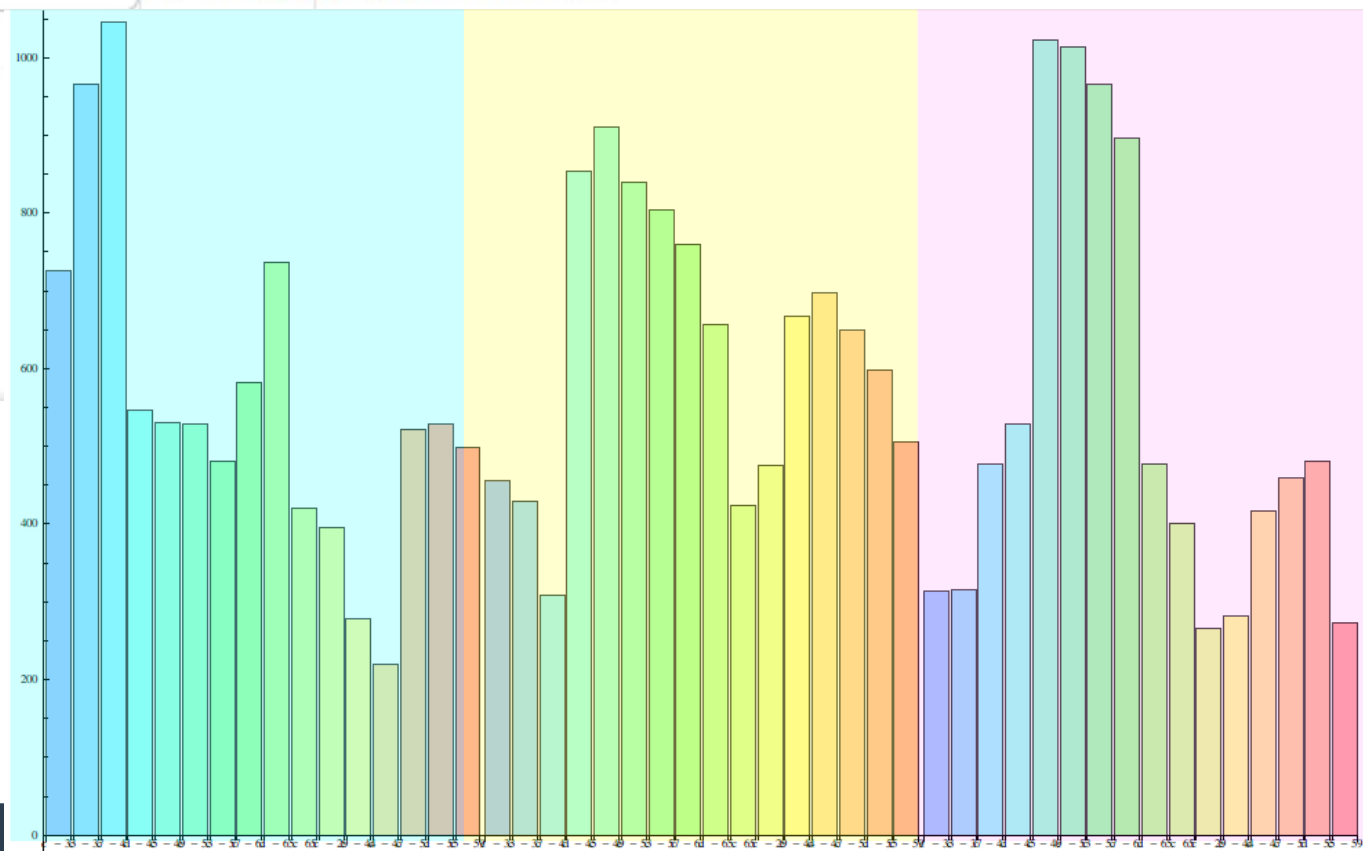
```
5 • select category, weight, count(Id) as atletas from atletas group by weight, category;
```

Result Grid  Filter Rows: 

Export: 

Wrap Cell Content: 

#	category	weight	atletas
1	cadetes	-33	725
2	cadetes	-37	966
3	cadetes	-41	1045
4	cadetes	-45	546
5	cadetes	-49	530
6	cadetes	-53	528
7	cadetes	-57	481



# Exploración de datos: posibles de sesgos

```
6 • select count(TaekwondoID) as atletas, peso, genero from J_olimpicos group by peso, genero;
```

Result Grid

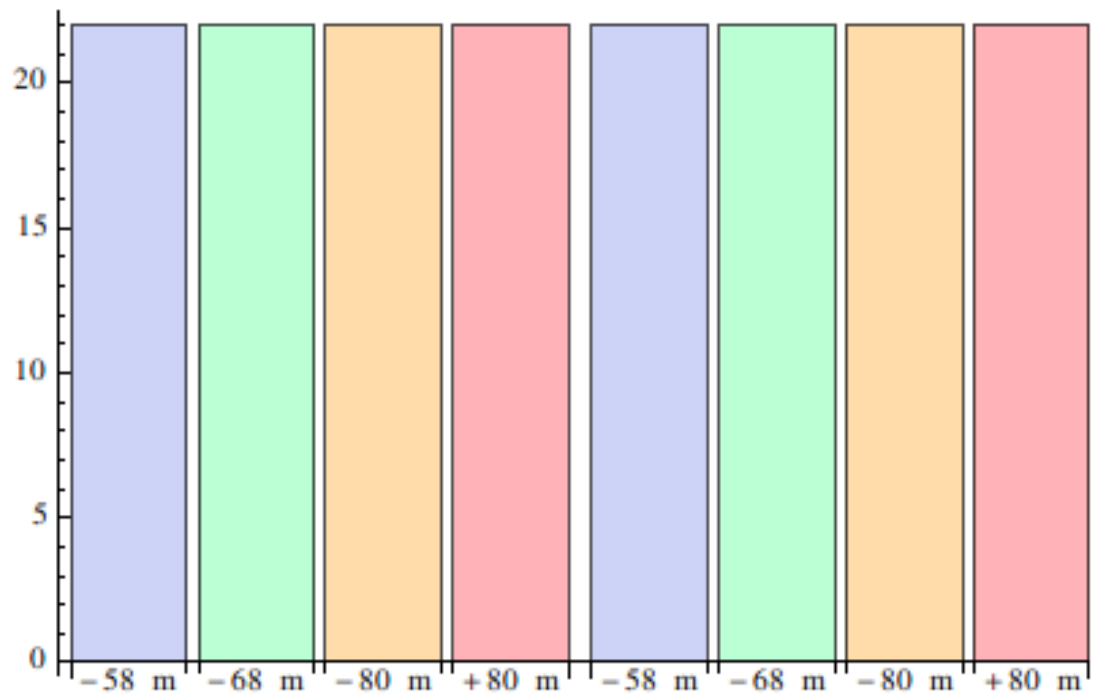


Filter Rows:

Export:

Wrap Cell Content:

#	atletas	peso	genero
1	22	-58	male
2	22	-68	male
3	22	-80	male
4	22	+80	male
5	22	-49	female
6	22	-57	female
7	22	-67	female
8	22	+67	female





# Exploración de datos: posibles de sesgos

```
8 • select current_date(), birthday, datediff(current_date(), birthday)/365 from J_olimpicos;
```

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

#	current_date()	birthday	datediff(current_date(), birthday)/3
1	2023-06-23	2000-11-03 00:00:00	22.6493
2	2023-06-23	2002-06-01 00:00:00	21.0740
3	2023-06-23	1997-07-20 00:00:00	25.9425
4	2023-06-23	1111-11-11 00:00:00	912.2219
5	2023-06-23	2002-03-23 00:00:00	21.2658
6	2023-06-23	1998-09-19 00:00:00	24.7753
7	2023-06-23	1999-08-17 00:00:00	23.8658
8	2023-06-23	1995-08-15 00:00:00	27.8740
9	2023-06-23	1998-01-12 00:00:00	25.4603
10	2023-06-23	1998-09-12 00:00:00	24.7945
11	2023-06-23	1995-09-04 00:00:00	27.8192
12	2023-06-23	1998-06-15 00:00:00	25.0384



# Exploración de datos: posibles de sesgos

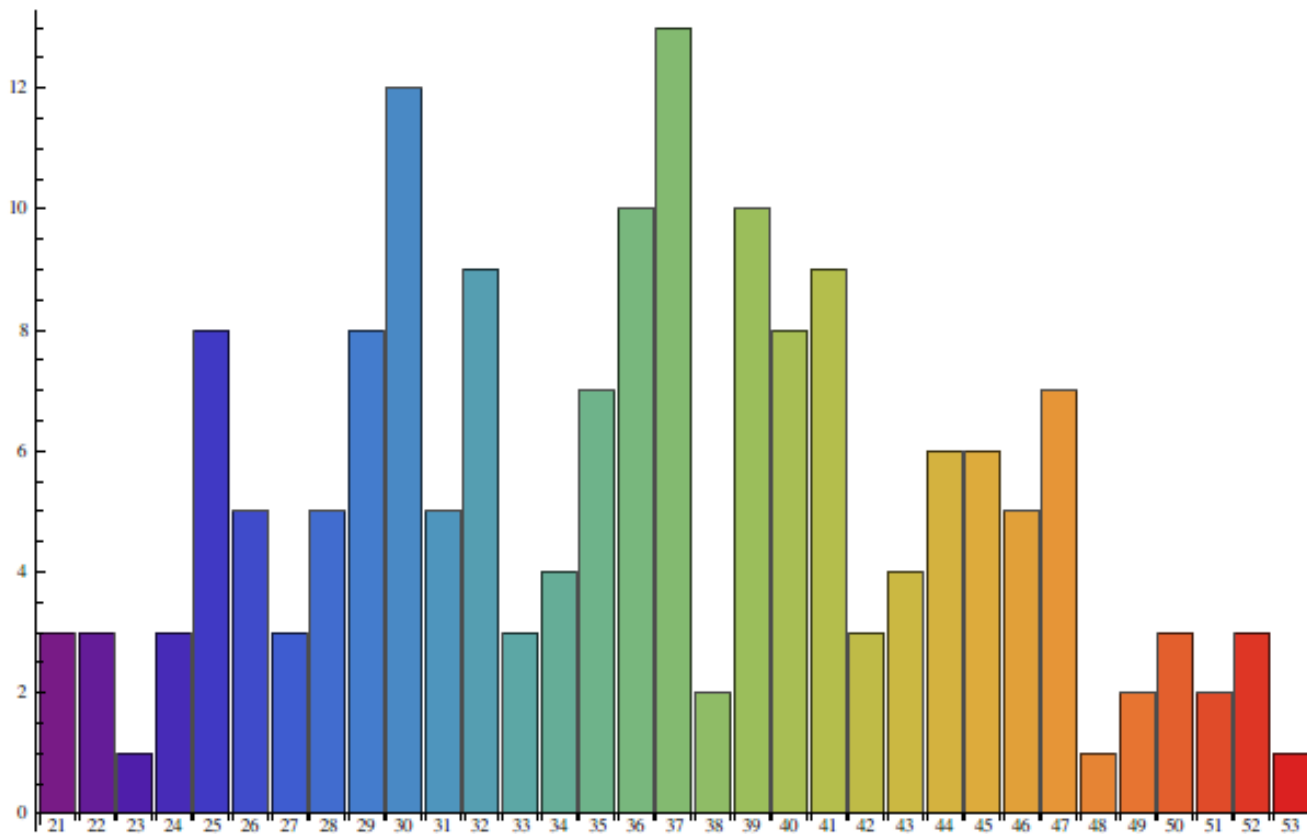
```
9 • select count(TaekwondoID), round(datediff(current_date(), birthday)/365) as edad  
1A from J_olimpicos group by edad order by edad;
```

Result Grid



Filter Rows:

#	count(TaekwondoID)	edad
1	3	21
2	3	22
3	1	23
4	3	24
5	8	25
6	5	26
7	3	27
8	5	28
9	8	29
10	12	30
11	5	31



```
16 • select atleta, anio, year(birthday), anio-year(birthday) from J_olimpicos;
```

Result Grid



Filter Rows:



Export:



Wrap Cell Content: ☐

#	atleta	anio	year(birthday)	anio-year(birthday)
1	Dell Aquila Vito	2021	2000	21
2	JENDOUBI Mohamed Khalil	2021	2002	19
3	ARTAMONO Mikhail	2021	1997	24
4	JANG Jun	2021	1111	910
5	RASHITOV Ulugbek	2021	2002	19
6	SINDEN Bradly	2021	1998	23
7	RECBER Hakan	2021	1999	22
8	ZHAO, Shuai	2021	1995	26
9	KHRAMTCOV Maksim	2021	1998	23
10	ELSHARABATY Saleh	2021	1998	23
11	KANAET Toni	2021	1995	26
12	EISSA Seif	2021	1998	23
13	LARIN Vladislav	2021	1995	26
14	GEORGIEVSKI Dejan	2021	1999	22
15	IN Kyo-Don	2021	1992	29
16	ALBA CASTILLO Rafael Y...	2021	1993	28
17	WONGPHATTANAKIT Pan...	2021	1997	24
18	CEDEZO IGLESIAS Adrien	2021	1111	910



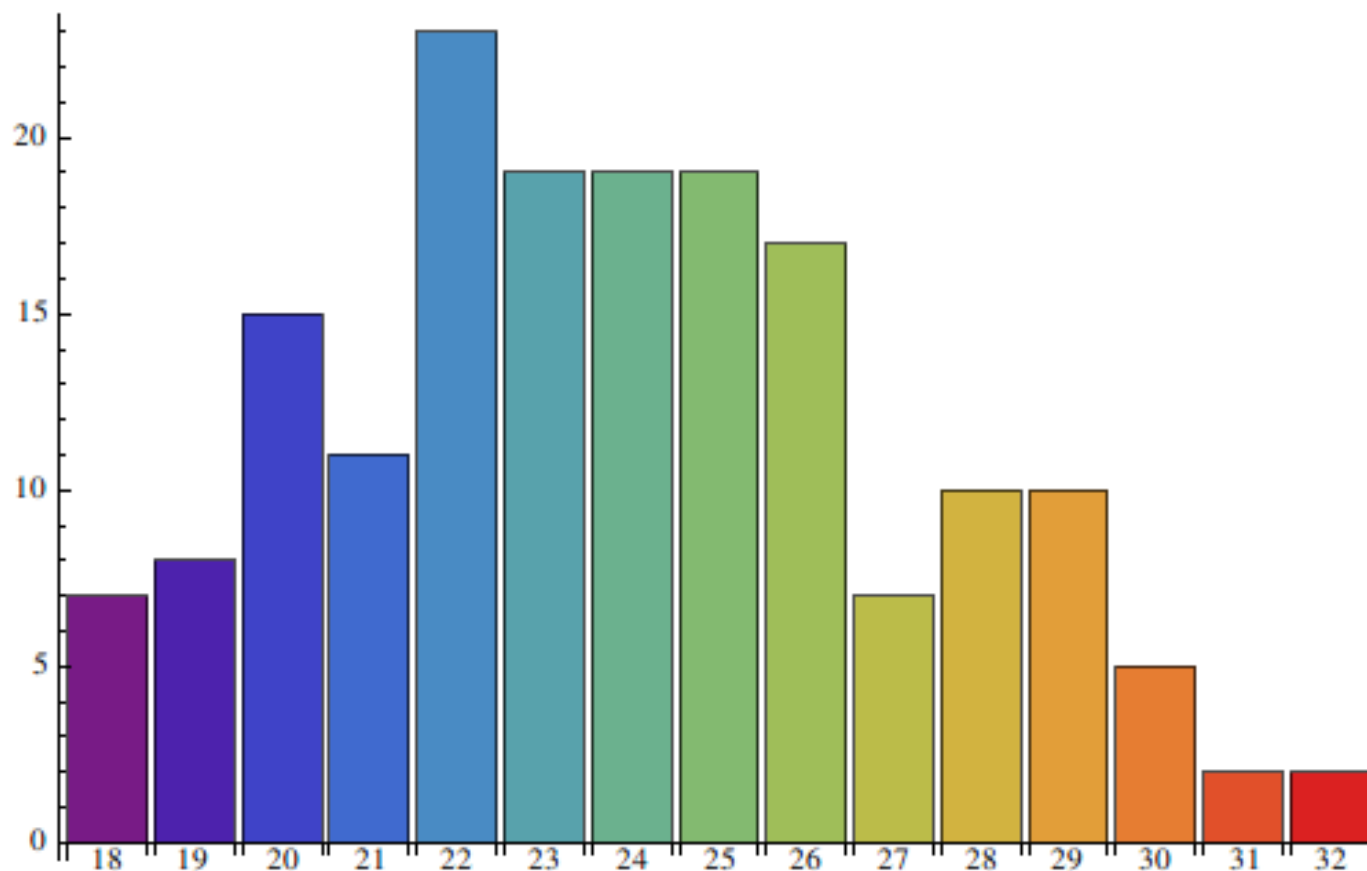
```

17 • select anio-year(birthday) as edad, count(anio-year(birthday)) as num_atletas
18   from J_olimpicos group by anio-year(birthday) order by anio-year(birthday);
19 #####

```

Result Grid   Filter Rows

#	edad	num_atletas
1	18	7
2	19	8
3	20	15
4	21	11
5	22	23
6	23	19
7	24	19
8	25	19
9	26	17
10	27	7
11	28	10
12	29	10
13	30	5
14	31	2
15	32	2



# Exploración de datos: posibles de sesgos

```
11 • select count(Id), round(datediff(current_date(), day_of_birth)/365) as edad  
12 from atletas group by edad order by edad;
```

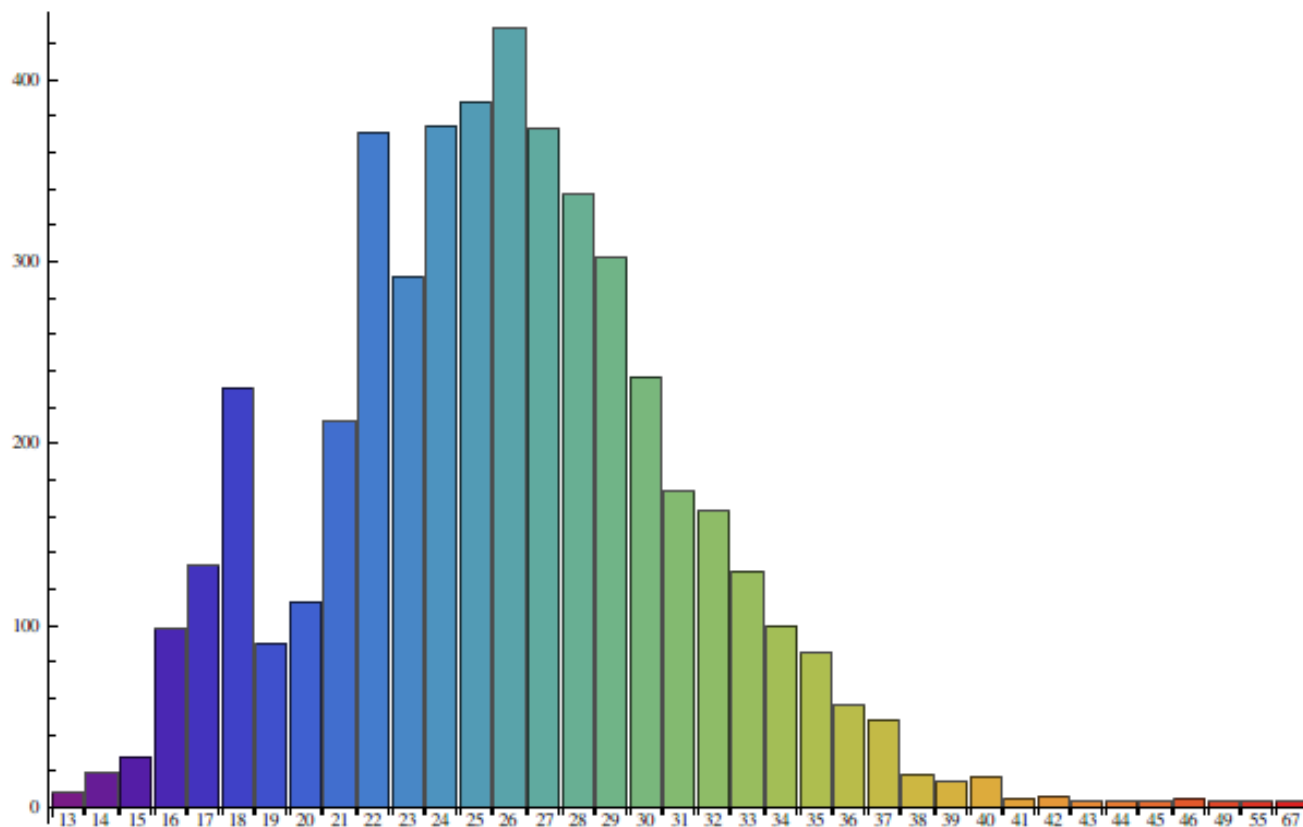
Result Grid



Filter Rows:



#	count(Id)	edad
1	8	13
2	19	14
3	28	15
4	98	16
5	133	17
6	231	18
7	90	19
8	113	20
9	212	21
10	371	22



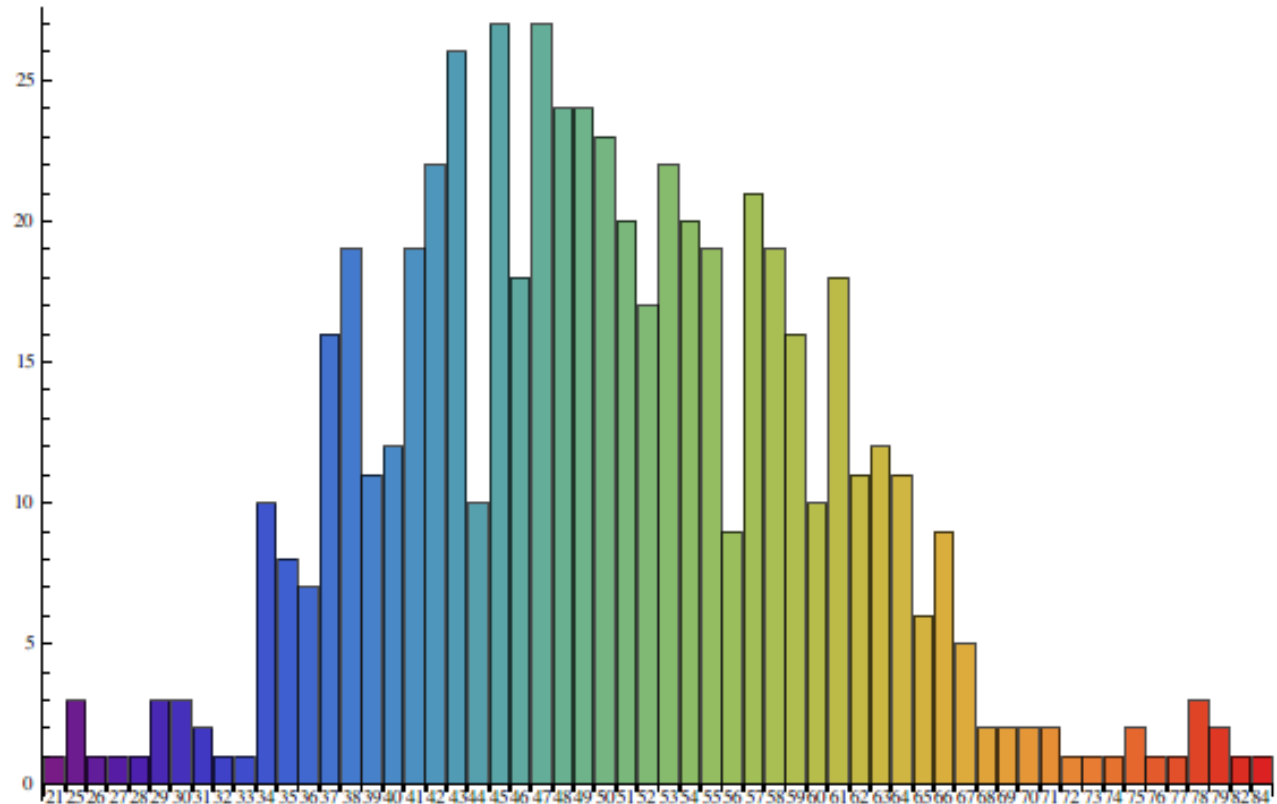


# Exploración de datos: posibles de sesgos

```
13 • select count(Id_coach), round(datediff(current_date(), birthday)/365) as edad
14 from coach group by edad order by edad;
```

Result Grid   Filter Rows: 

#	count(Id_coach)	edad
1	1	21
2	3	25
3	1	26
4	1	27
5	1	28
6	3	29
7	3	30
8	2	31
9	1	32
10	1	33



# Modelo

## Premisa 1:

El país que invierte más (capital estatal, capital privado, capital intelectual), aparecerá más en ranking de atletas, coach y medallas olímpicas

	R. Atletas	R. Coach	J_olimpicos
Conteo	país	país	país

	J_olímpicos		
Conteo	medallas/país/año	medallas/país/año	medallas/país/año

(USA, Federación Rusa, China, Korea, España)

# Modelo

## Premisa 2:

El país que invierte más (capital estatal, capital privado, capital intelectual),  
Obtendrá mejores resultados en ranking de atletas, coach y medallas olímpicas

Distribución de puntos	R. Atletas	R. Coach
¿Qué atletas y países aparecen en los primeros lugares?		

Distribución de la suma de puntos	R. Atletas	R. Coach
¿Qué países suman más puntos en los <u>ranking</u> ?		

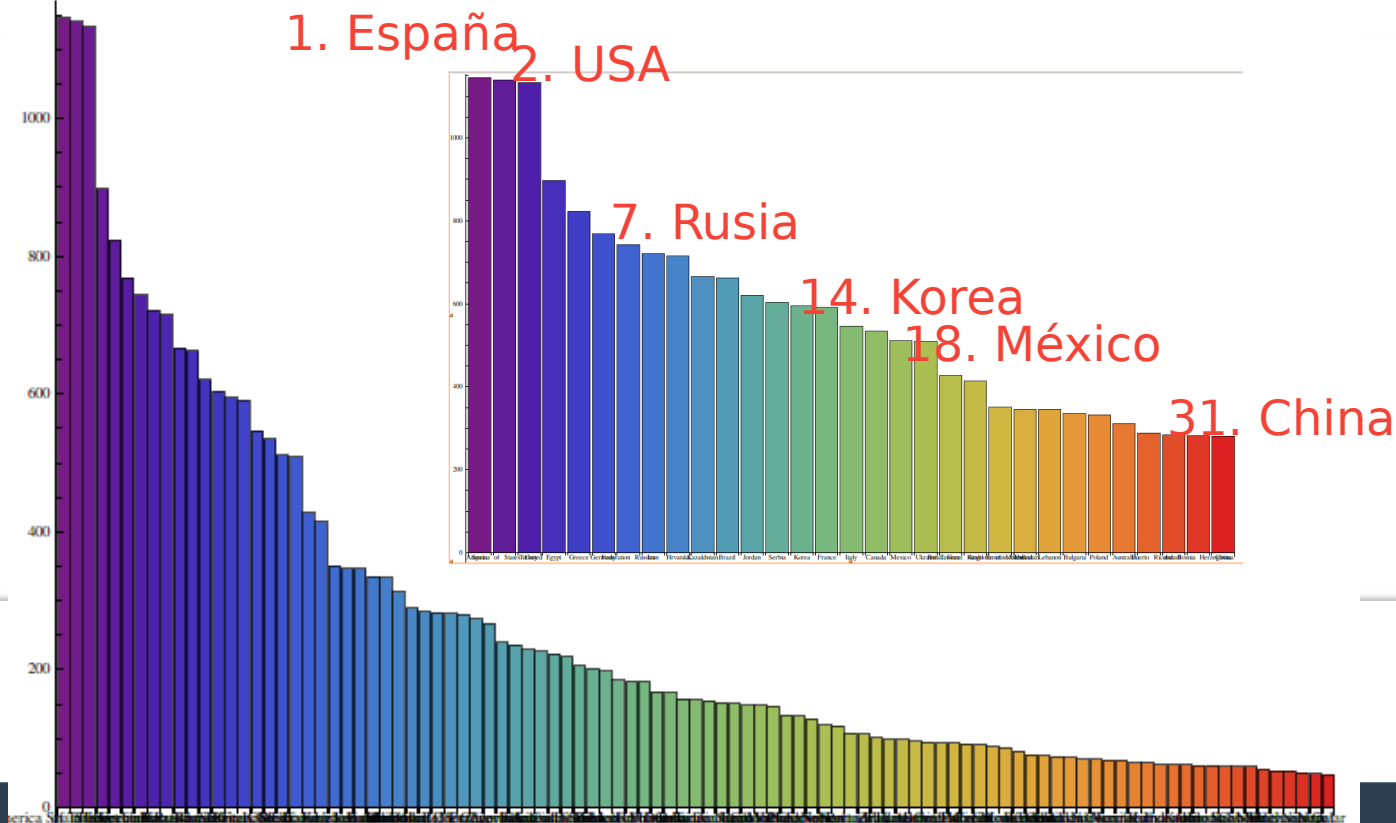
## Análisis comparativo

R. Atletas	Medallas olímpicas	R. Coach
------------	--------------------	----------

# Evaluación y Análisis del Modelo

```
18 • select count(Id) as atletas,nation from atletas group by nation order by count(Id) desc limit 50;
```

#	atletas	nation
1	1146	Spain
2	1140	United States of America
3	1133	Turkey
4	898	Egypt
5	823	Greece
6	769	Germany
7	743	Russian Federation
8	721	Iran
9	715	Hrvatska
10	666	Kazakhstan
11	663	Brazil
12	621	Jordan

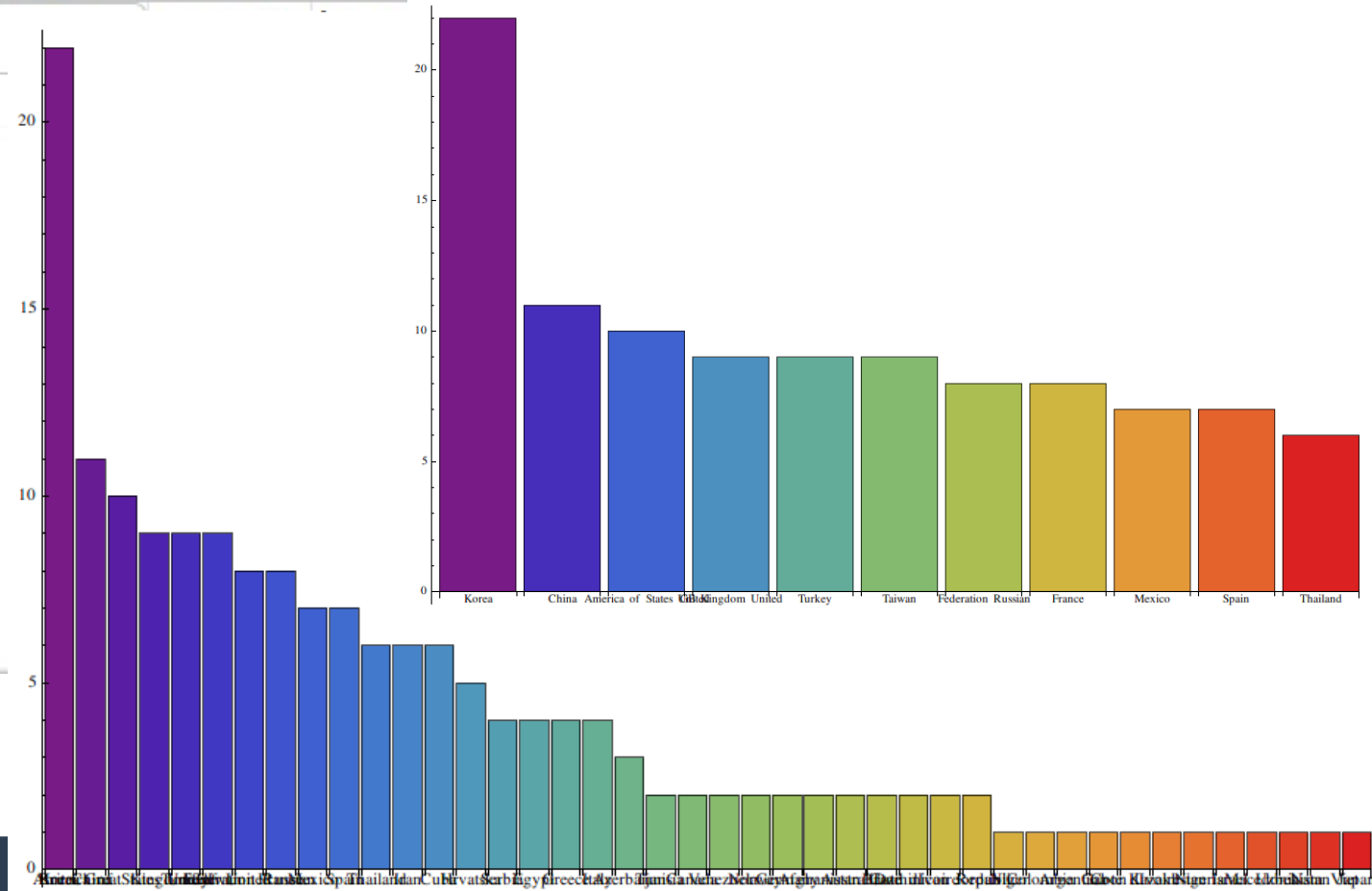


# Evaluación y Análisis del Modelo

```
22 • select count(TaekwondoID) as atletas , pais from J_olimpicos group by pais order by atletas desc;
```

Result Grid   Filter Rows: 

#	atletas	pais
1	22	Korea
2	11	China
3	10	United States of America
4	9	United Kingdom of Great Britai
5	9	Turkey
6	9	Taiwan
7	8	Russian Federation
8	8	France
9	7	Mexico
10	7	Spain
11	6	Thailand
12	6	Iran





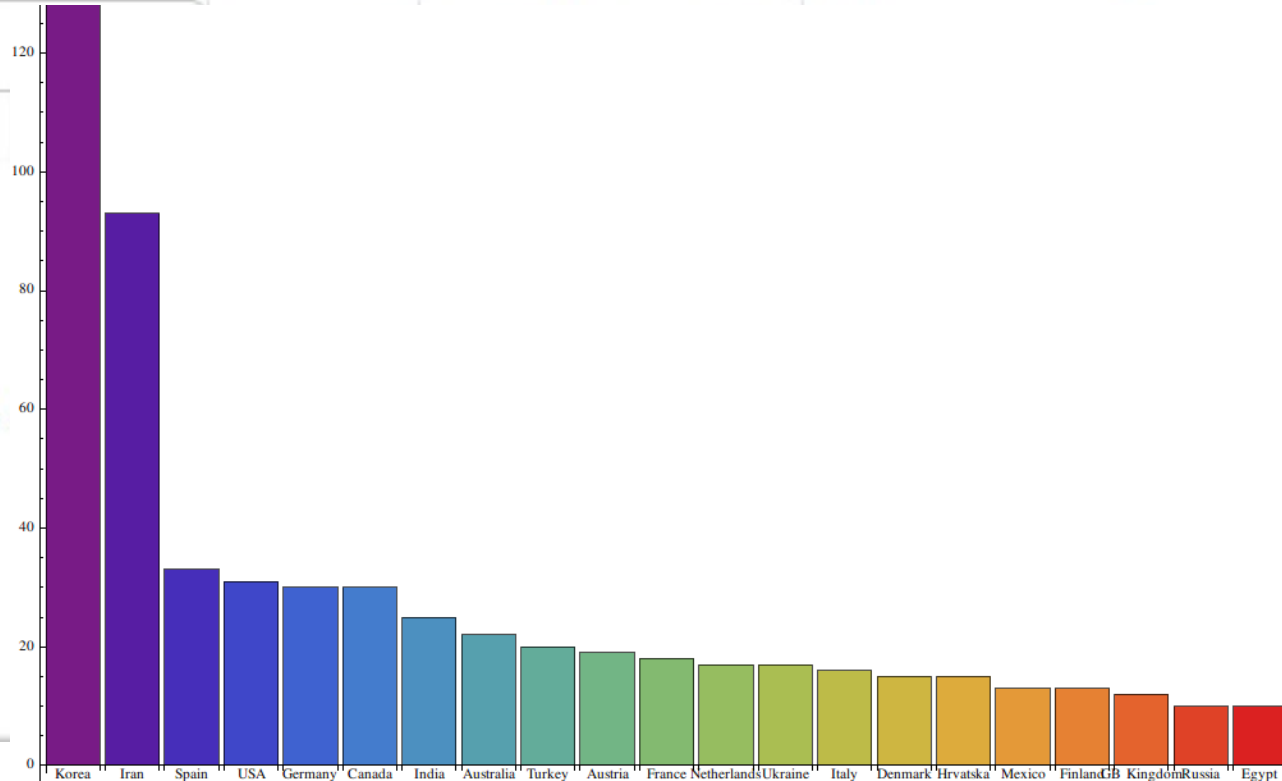
# Evaluación y Análisis del Modelo

```
24 • select count(Id_coach) as entrenadores, country
25 from coach group by country order by entrenadores desc limit 50;
```

Result Grid

Filter Rows:

#	entrenadores	country
1	471	
2	130	Korea
3	93	Iran
4	33	Spain
5	31	United States of America
6	30	Germany
7	30	Canada
8	25	India
9	22	Australia
10	20	Turkey



	J_olímpicos		
Conteo	medallas/país/año	medallas/país/año	medallas/país/año
(USA, Federación Rusa, China, Korea, España)			

```

96 • select anio, medalla from J_olimpicos
97   where pais in (select pais from J_olimpicos where pais="Spain") order by anio;

```

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

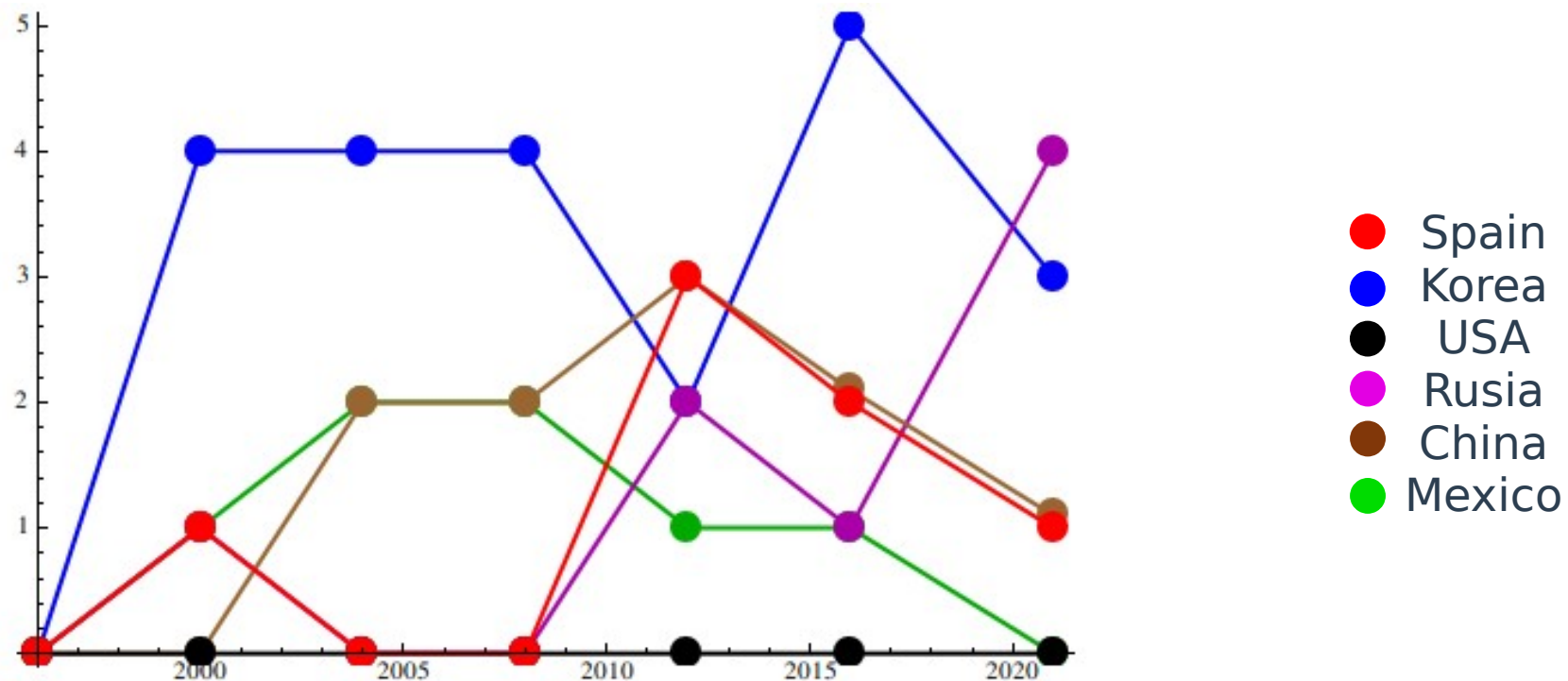
#	anio	medalla
1	2000	plata
2	2012	oro
3	2012	plata
4	2012	plata
5	2016	bronce
6	2016	plata
7	2021	plata

```

95   #####Medalla/pais/año
96 • select anio, medalla from J_olimpicos
97     where pais in (select pais from J_olimpicos where pais="Spain") order by anio;
98 • select anio, medalla from J_olimpicos
99     where pais in (select pais from J_olimpicos where pais="Korea") order by anio;
100 • select anio, medalla from J_olimpicos
101     where pais in (select pais from J_olimpicos where pais="Mexico") order by anio;
102 • select anio, medalla from J_olimpicos
103     where pais in (select pais from J_olimpicos where pais="Russian Federation") order by anio;
104 • select anio, medalla from J_olimpicos
105     where pais in (select pais from J_olimpicos where pais="China") order by anio;
106 • select anio, medalla from J_olimpicos
107     where pais in (select pais from J_olimpicos where pais="United State of America") order by anio;

```

# Evaluación y Análisis del Modelo



# Evaluación y Análisis del Modelo

```
94 • select atleta from J_olimpicos where medalla="oro" and anio="2021";
```

Result Grid  Filter Rows:  Export:  Wrap Cell Content: 

#	atleta
1	Dell Aquila Vito
2	RASHITOV Ulugbek
3	KHRAMTCOV Maksim
4	LARIN Vladislav
5	WONGPHATTANAKIT Pan.
6	ZOLOTIC Anastasija
7	JELIC Matea
8	MANDIC Milica

```
92 • select distinct coach, atleta from coach_athetas where atleta in  
93 (select atleta from J_olimpicos where medalla="oro" and anio="2021");
```

Result Grid  Filter Rows:  Export:  Wrap Cell Content: 

#	coach	atleta
1	LO PINTO Giovanni	Dell Aquila Vito
2	CORSI Cristina	Dell Aquila Vito
3	CHOI Young-Seok	WONGPHATTANAKIT Panipak
4	IVANOV Vadim	LARIN Vladislav
5	IVANOV Vadim	KHRAMTCOV Maksim



Distribución de puntos

R. Atletas

R. Coach

¿Qué atletas y países aparecen en los primeros lugares?

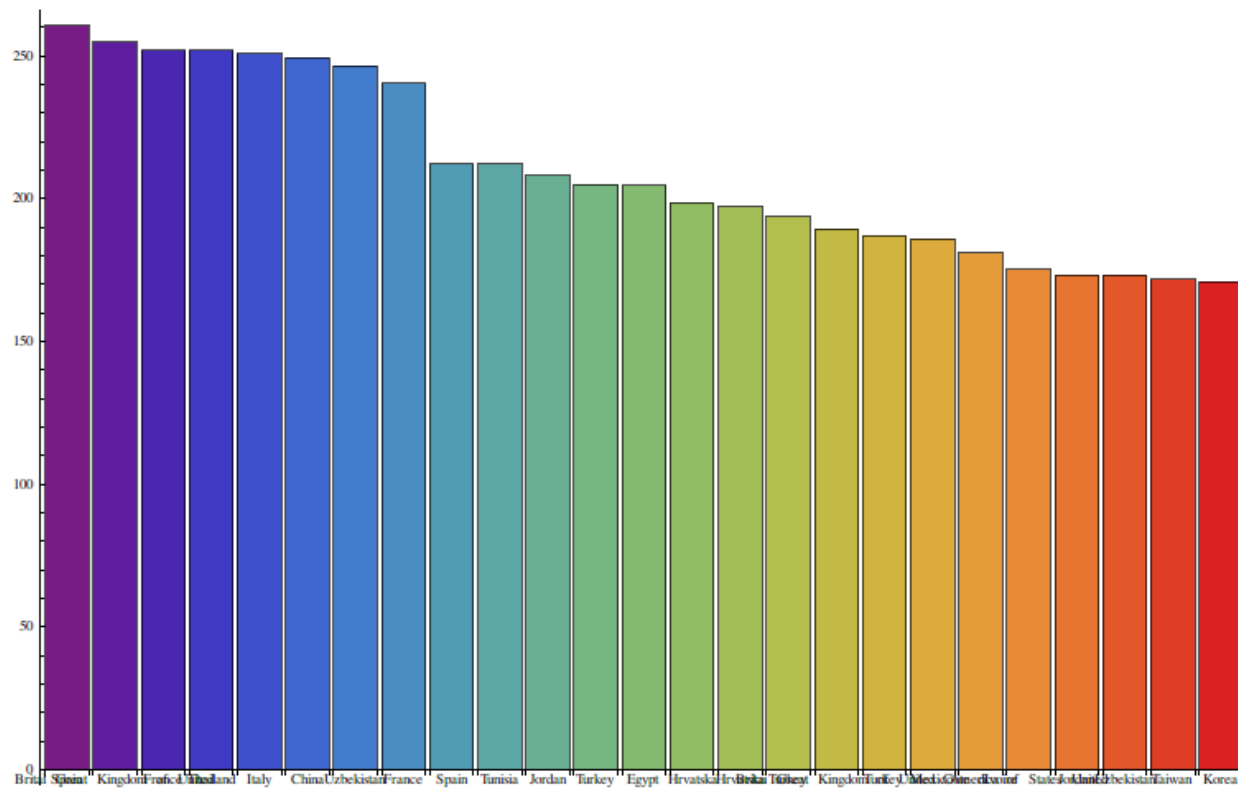
```
109 • select name, points, nation from atletas order by points desc limit 25;
```

Result Grid   Filter Rows: 

Export:

```
ChartLabels → {Spain, United Kingdom of Great Britai, France, Thailand, Italy, China, Uzbekistan, France, Spain, Tunisia, Jordan, Turkey, Egypt, Hrvatska, Hrvatska, Turkey, United Kingdom of Great Britai, Turkey, Mexico, Cote d'Ivoire, United States of America, Jordan, Uzbekistan, Taiwan, Korea}, ChartStyle → "Rainbow"]
```

#	name	points	nation
1	CEREZO IGLESIAS Adriana	260.5	Spain
2	SINDEN Bradly	254.9	United Ki...
3	WIET HENIN Magda	252.1	France
4	WONGPHATTANAKIT Panipak	252.06	Thailand
5	ALESSIO Simone	250.7	Italy
6	LUO Zongshi	249.28	China
7	RASHITOV Ulugbek	246.56	Uzbekistan
8	LAURIN Althea	240.33	France
9	VICENTE YUNTA Adrian	212.2	Spain
10	JENDOUBI Mohamed Khalil	212.13	Tunisia
11	AL SADEQ Julyana	207.98	Jordan



¿Qué atletas y países aparecen en los primeros lugares?

```
110 • select nation, count(nation) as altos_puntajes from atletas where Id<25  
111 group by nation order by altos_puntajes desc;
```

Result Grid



Filter Rows:



Export:



Wrap Cell Content:

#	nation	altos_puntajes
1	Azerbaijan	2
2	Serbia	2
3	Germany	2
4	Spain	2
5	United States of America	2
6	Italy	1
7	United Kingdom of Great ...	1
8	Moldova	1
9	Thailand	1
10	Uzbekistan	1
11	Belgium	1
12	Denmark	1
13	Turkey	1
14	France	1



Distribución de la suma  
de puntos

R. Atletas

R. Coach

¿Qué países suman más puntos en los ranking?

112 • `select nation, sum(points) from atletas group by nation order by sum(points) desc limit 25;`

Result Grid



Filter Rows:



Export:



Wrap Cell Content:



Fetch rows:



#	nation	sum(points)
1	United States of America	6596.3400000000165
2	Spain	6378.430000000017
3	Korea	6364.060000000001
4	Turkey	6012.530000000015
5	Iran	5378.8700000000135
6	Hrvatska	5206.8400000000065
7	Brazil	4520.440000000001
8	China	4335.870000000001
9	Mexico	3976.8900000000006
10	Egypt	3903.3300000000045
11	Germany	3766.5200000000063
12	France	3648.6800000000067
13	United Kingdom of Great ...	3605.2900000000045
14	Uzbekistan	3562.510000000003
15	Serbia	3518.2500000000005
16	Canada	3340.8800000000003
17	Kazakhstan	3297.3100000000003

## Análisis comparativo

R. Atletas

Medallas olímpicas

R. Coach

29 • `select name, points from atletas;`

Result Grid Filter Rows: Export:

#	name	points
1	SAMATULY Nurperzent	29
2	BUDAGLI Mehdi	28.75
3	DEDEGBE Nelson	17.13
4	MARUFJONOV Dilmurod	16.5
5	CRAVCENCO Maxim	16.38
6	SENESI Diego	16
7	CARVALHO Fabio	15.25
8	MAYO James	14
9	CHAIYOTHA Nitipoom	11.75
10	MANULAT Anthony	11.25
11	HATAMLI Ilyas	11.13
12	VIDELA MIGUENS Victor	11.06

27 • `select medalla, atleta from J_olimpicos;`

Result Grid Filter Rows: Export:

#	medalla	atleta
1	oro	Dell Aquila Vito
2	plata	JENDOUBI Mohamed Khalil
3	bronze	ARTAMONO Mikhail
4	bronze	JANG Jun
5	oro	RASHITOV Ulugbek
6	plata	SINDEN Bradley
7	bronze	RECBER Hakan
8	bronze	ZHAO, Shuai
9	oro	KHRAMTCOV Maksim
10	plata	ELSHARABATY Saleh
11	bronze	KANAET Toni
12	bronze	EISSA Seif

30 • `select name, points from coach;`

Result Grid Filter Rows: Export:

#	name	points
1	SAHIN Ali	13590
2	FARGAS Ireno	12821
3	BENITEZ MORALES Elena	6808.5
4	MARQUEZ SANCHEZ Jose Jesus	6190
5	SOLIS Juan	5923
6	MEIJER Henk	5637
7	KO Tae-Jeong	4725
8	STREIF Georg	4723
9	MARTIN Francisco	4588
10	ZOLGHADRI Gholam Hassan	4580
11	CARREIRA CORREDOIRA Mar...	4326
12	WUNDERLICH Holger	4101
13	KARIMI Morteza	3963
14	SCHEITERBAUER Marco	3811.5
15	LEE Kyu-Hong	3551
16	PARK Soo-Nam	3510
17	BANG Young-In	3269

28 • `select atleta, coach from coach_atletas;`

Result Grid Filter Rows: Export:

#	atleta	coach
1	TAZEGUL Servet	SAHIN Ali
2	TANRIKULU Bahri	SAHIN Ali
3	TAZEGUL Servet	SAHIN Ali
4	TAZEGUL Servet	SAHIN Ali
5	TATAR Nur	SAHIN Ali
6	TANRIKULU Azize	SAHIN Ali
7	YAMAN Irem	SAHIN Ali
8	TATAR Nur	SAHIN Ali

```

32 • select J_olimpicos.atleta, J_olimpicos.medalla, coach_athetas.coach
33      from J_olimpicos
34      inner join coach_athetas on upper(J_olimpicos.atleta) = upper(coach_athetas.atleta);

```

Result Grid



Filter Rows:



Export:



Wrap Cell Content: [IA](#)

#	atleta	medalla	coach
1	TAZEGUL Servet	bronze	SAHIN Ali
2	TANRIKULU Bahri	plata	SAHIN Ali
3	TAZEGUL Servet	bronze	SAHIN Ali
4	TAZEGUL Servet	bronze	SAHIN Ali

```

37 • select atletas.points, J_olimpicos.atleta, J_olimpicos.medalla, coach_athetas.coach, coach.points
38      from J_olimpicos
39      left join coach_athetas on upper(J_olimpicos.atleta) = upper(coach_athetas.atleta)
40      left join atletas on upper(atletas.name) = upper(J_olimpicos.atleta)
41      left join coach on upper(coach_athetas.coach) = upper(coach.name);

```

Result Grid



Filter Rows:



Export:



Wrap Cell Content: [IA](#)

#	points	atleta	medalla	coach	points
1	124.354	WONGPHATTANAKIT Pan...	oro	CHOI Young-Seok	3206
2	124.354	WONGPHATTANAKIT Pan...	oro	CHOI Young-Seok	3206
3	0.53	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
4	130.25	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
5	0.53	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
6	130.25	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
7	0.53	CEREZO IGLESIAS Adriana	plata	BENITEZ MORALES Elena	6808.5

44 • `select name, count(name) cc from atletas group by name having cc>1;`

Result Grid



Filter Rows:



Export:



Wrap Cell Content:



Fetch rows:



#	name	cc
1	SAMATULY Nurperzent	3
2	BUDAGLI Mehdi	2
3	DEDEGBE Nelson	3
4	MARUFJONOV Dilmurod	2
5	CRAVCENCO Maxim	3
6	SENESE Diego	2
7	CARVALHO Fabio	2
8	MAYO James	2
9	CHAIYOTHA Nitipoom	3
10	MANULAT Anthony	3
11	HATAMLI Ilyas	3
12	VIDELA MIGUENS Victor	6

45 • `select name, max(points) puntos from atletas group by name;`

Result Grid



Filter Rows:



Export:



Wrap Cell Content:



Fetch rows:



#	name	puntos
1	SAMATULY Nurperzent	29
2	BUDAGLI Mehdi	28.75
3	DEDEGBE Nelson	17.13
4	MARUFJONOV Dilmurod	16.5
5	CRAVCENCO Maxim	16.38
6	SENESE Diego	16
7	CARVALHO Fabio	15.25
8	MAYO James	14
9	CHAIYOTHA Nitipoom	23.5
10	MANULAT Anthony	22.5

```
46 • create view pruebita as select name, max(points) puntos from atletas group by name;
47 • select name, count(name) cc from pruebita group by name having cc>1;
```

Result Grid



Filter Rows:

Export:

Wrap Cell Content: ☐

#	name	cc
---	------	----

```
48 • select name, count(*) cc from pruebita group by name having cc=1;
```

Result Grid



Filter Rows:

Export:

Wrap Cell Content: ☐

Fetch rows:

#	name	cc
1	SAMATULY Nurperzent	1
2	BUDAGLI Mehdi	1
3	DEDEGBE Nelson	1
4	MARUFJONOV Dilmurod	1
5	CRAVCENCO Maxim	1
6	SENESE Diego	1
7	CARVALHO Fabio	1
8	MAYO James	1
9	CHAIYOTHA Nitipoom	1
10	MANULAT Anthony	1
11	HATAMLI Ilyas	1
12	VIDELA MIGUENS Victor	1



```

51 • select atleta, coach from coach_athetas group by atleta, coach;
52 • create view C_A as select atleta, coach from coach_athetas group by atleta, coach;
53 • select * from C_A;

```

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

#	atleta	coach
1	TAZEGUL Servet	SAHIN Ali
2	TANRIKULU Bahri	SAHIN Ali
3	TATAR Nur	SAHIN Ali
4	TANRIKULU Azize	SAHIN Ali
5	YAMAN Irem	S
6	AGRIS Zeliha	S

```

56 • select pruebita.puntos, J_olimpicos.atleta, J_olimpicos.medalla, C_A.coach, coach.points
57 from J_olimpicos
58 left join C_A on upper(J_olimpicos.atleta) = upper(C_A.atleta)
59 left join pruebita on upper(J_olimpicos.atleta) = upper(pruebita.name)
60 left join coach on upper(coach.name) = upper(C_A.coach);

```

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

#	puntos	atleta	medalla	coach	points
1	252.06	WONGPHATTANAKIT Pan...	oro	CHOI Young-Seok	3206
2	260.5	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
3	260.5	CEREZO IGLESIAS Adriana	plata	BENITEZ MORALES Elena	6808.5
4	252.06	WONGPHATTANAKIT Pan...	bronze	CHOI Young-Seok	3206
5	165.23	JANG Jun	bronze	NULL	NULL
6	246.56	RASHITOV Ulugbek	oro	NULL	NULL
7	254.9	SINDEN Bradly	plata	NULL	NULL
8	186.99	RECBER Hakan	bronze	NULL	NULL
9	67.02	KHRAMTCOV Maksim	oro	IVANOV Vadim	3248
10	173.28	ELSHARABATY Saleh	plata	NULL	NULL



```

56 • select pruebita.puntos, J_olimpicos.atleta, J_olimpicos.medalla, C_A.coach, coach.points
57 from J_olimpicos
58 left join C_A on upper(J_olimpicos.atleta) = upper(C_A.atleta)
59 left join pruebita on upper(J_olimpicos.atleta) = upper(pruebita.name)
60 left join coach on upper(coach.name) = upper(C_A.coach);

```

Result Grid



Filter Rows:

Export:



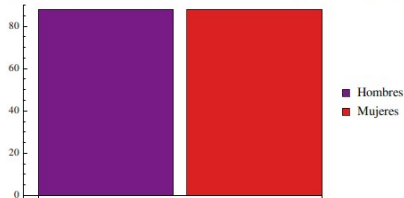
Wrap Cell Content: ☐

#	puntos	atleta	medalla	coach	points
1	252.06	WONGPHATTANAKIT Pan...	oro	CHOI Young-Seok	3206
2	260.5	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
3	260.5	CEREZO IGLESIAS Adriana	plata	BENITEZ MORALES Elena	6808.5
4	252.06	WONGPHATTANAKIT Pan...	bronze	CHOI Young-Seok	3206
5	165.23	JANG Jun	bronze	NULL	NULL
6	246.56	RASHITOV Ulugbek	oro	NULL	NULL
7	254.9	SINDEN Bradly	plata	NULL	NULL
8	186.99	RECBER Hakan	bronze	NULL	NULL
9	67.02	KHRAMTCOV Maksim	oro	IVANOV Vadim	3248
10	173.28	ELSHARABATY Saleh	plata	NULL	NULL
11	61.48	KANAET Toni	bronze	NULL	NULL
12	204.75	EISSA Seif	bronze	NULL	NULL
13	58.42	LARIN Vladislav	oro	IVANOV Vadim	3248

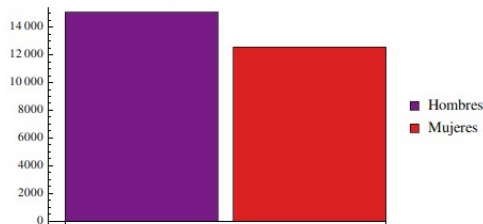
# Conclusiones

# Análisis de sesgo: genero edad

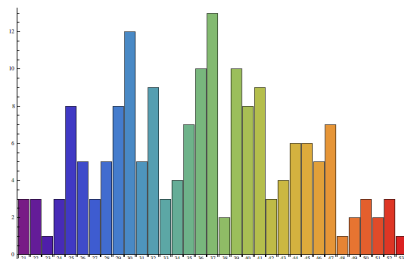
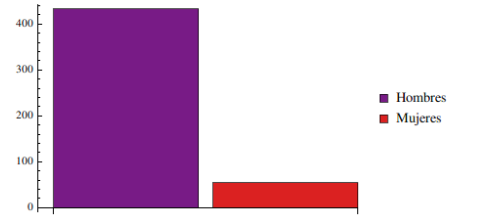
BarChart[{{88, 88}}, ChartLegends -> {"Hombres", "Mujeres"}]



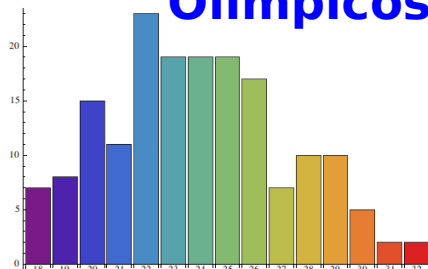
BarChart[{{15 077, 12 549}}, ChartLegends -> {"Hombres",



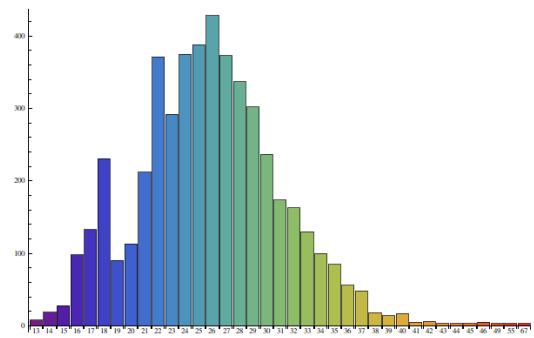
BarChart[{{433, 54}}, ChartLegends -> {"Hombres", "Mujeres"}]



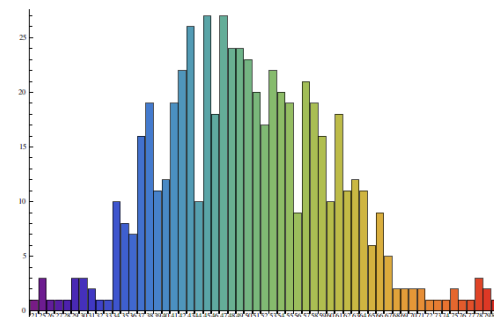
**Olímpicos**



**Atletas**



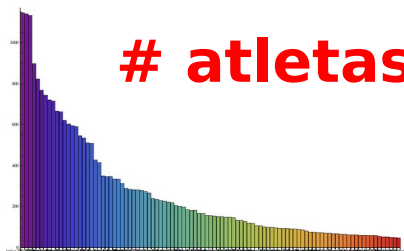
**Entrenadores**



Distribución de Poisson

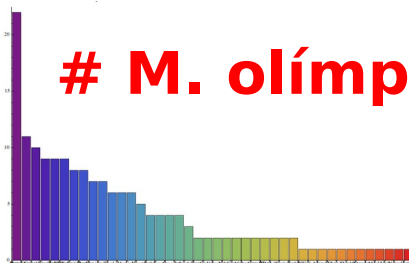
# Conclusiones

## # atletas



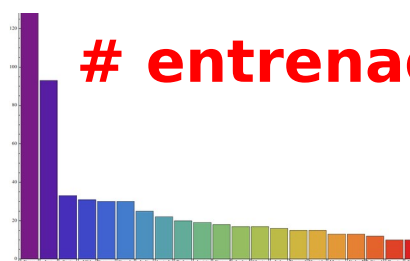
- 1 España
- 2 USA
- 3 Turquía

## # M. olímpicas



- 1 Korea
- 2 China
- 3 USA
- 4 GB
- 5 Turquía
- 6 Taiwan
- 7 Rusia

## # entrenadores

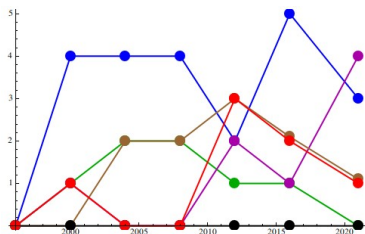


- 1 Korea
- 2 Iran
- 3 España
- 4 USA
- ...
- 10 Turquía

## Ranking

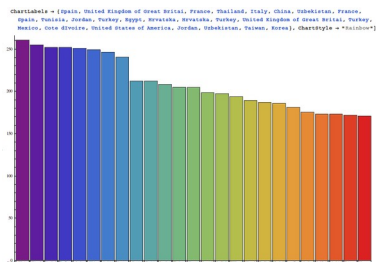
Ley de Potencias

# Conclusiones



Spain  
Korea  
USA  
Rusia  
China  
Mexico

## Medallas Olímpicas



## Posición en el Ranking

### Primeros lugares

1 España  
2 GB  
3 China

### Primeros lugares x país

España  
USA  
GB  
...  
Turquía

### Suma de Puntos x país

1 USA  
2 España  
3 Korea  
4 Turquía  
8 China  
13 GB

puntos	atleta	medalla	coach	points
252.06	WONGPHATTANAKIT Panipak	oro	CHOI Young-Seok	3206
260.5	CEREZO IGLESIAS Adriana	plata	MARQUEZ SANCHEZ Jose Jesus	6190
260.5	CEREZO IGLESIAS Adriana	plata	BENITEZ MORALES Elena	6808.5
252.06	WONGPHATTANAKIT Panipak	bronze	CHOI Young-Seok	3206
165.23	JANG Jun	bronze	NULL	NULL
246.56	RASHITOV Ulugbek	oro	NULL	NULL
254.9	SINDEN Bradly	plata	NULL	NULL
186.99	RECBER Hakan	bronze	NULL	NULL
67.02	KHRAMTCOV Maksim	oro	IVANOV Vadim	3248
173.28	ELSHARABATY Saleh	plata	NULL	NULL
61.48	KANAET Toni	bronze	NULL	NULL
204.75	EISSA Seif	bronze	NULL	NULL
58.42	LARIN Vladislav	oro	IVANOV Vadim	3248
76.09	GEORGIEVSKI Dejan	plata	NULL	NULL
38.23	IN Kyo-Don	bronze	NULL	NULL
65.44	ALBA CASTILLO Rafael Yunier	bronze	NULL	NULL
116.81	SEMBERG Avishag	bronze	NULL	NULL
86.98	BOGDANOVIC Tijana	bronze	NULL	NULL
32.85	ZHAO Shuai	oro	NULL	NULL
5.85	HANPRAB Tawin	plata	CHOI Young-Seok	3206
19.64	PIE Luisito	bronze	NULL	NULL
21.95	KIM Tae-Hun	bronze	NULL	NULL
8.99	ABUGHAUSH Ahmad	oro	NULL	NULL
12.06	DENISENKO Alexey	plata	IVANOV Vadim	3248
34.04	LEE Dae-Hoon	bronze	NULL	NULL
3.08	GONZALEZ BONILLA Joel	bronze	CARREIRA CORREDOIRA Marcos	4326
3.08	GONZALEZ BONILLA Joel	bronze	MARTIN Francisco	4588
3.08	GONZALEZ BONILLA Joel	bronze	MARQUEZ SANCHEZ Jose Jesus	6190
3.08	GONZALEZ BONILLA Joel	bronze	BENITEZ MORALES Elena	6808.5
161.44	CISSE Cheick Sallah	oro	NULL	NULL
5.78	MASSOP-MUHAMMAD Lutalo	plata	NULL	NULL
38.63	BEIGI HARCHEGANI Milad	bronze	NULL	NULL
1.63	OUESLATI Oussama	bronze	NULL	NULL
28.62	ISAEV Radik	oro	NULL	NULL
62	ISSOUFOU ALFAGA Abdoulrazak	plata	NULL	NULL
83.52	ANDRADE SIQUEIRA de Maicon	bronze	NULL	NULL
0.76	CHA Dong-Min	bronze	NULL	NULL
86.98	BOGDANOVIC Tijana	plata	NULL	NULL

# *¡Gracias!*

