

HW2

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Importing the required libraries for MYSQL server connection

```
library(DBI)
library(RMySQL)
library(getPass)
```

Entering Variables for connection

Had to create a new user called root 1 as MYSQL 8.0 does not connect to R via SSL password. below was the error “Failed to connect to database: Error: Plugin caching_sha2_password could not be loaded: The specified module could not be found”.

```
mysql_user="root1"
port=3306
pw=getPass::getPass("Enter your Password")
```

Please enter password in TK window (Alt+Tab)

```
database_name="SPS607"
host="localhost"
```

Connecting to MYSQL DataBase

Here I am connecting to th data base entering my password

```
conn1 = dbConnect(
  MySQL(),
  user=mysql_user,
  password=pw,
  dbname=database_name,
  host=host,
  port=port)
```

Showing current tables in DataBase

```
tables = dbListTables(conn1)
tables
```

```
## [1] "movies" "ratings"
```

1st Query

Selecting Movies tables

```
query1="select * from movies"
send_query1=dbSendQuery(conn1, query1)
df1=fetch(send_query1)
df1
```

##	id	name_movie	director	year_released	movie_length
## 1	1	Inception	Christopher Nolan	2010	02:28:00
## 2	2	The Intouchables	Olivier Nakache	2011	01:52:00
## 3	3	3 Idiots	Rajkumar Hirani	2009	02:51:00
## 4	4	Ip Man	Wilson Yip	2010	01:46:00
## 5	5	Toy Story	John Lasseter	1995	01:21:00

2nd Query

Selecting ratings tables

```
query2="select * from ratings"
send_query2=dbSendQuery(conn1, query2)
df2=fetch(send_query2)
df2
```

##	reviewer_id	user_name	movie_id	rating	review
## 1	1001	laibah	1	5	Great movie
## 2	1002	laibah	2	5	Amazing
## 3	1003	laibah	3	NA	<NA>
## 4	1004	laibah	4	NA	<NA>
## 5	1005	laibah	5	4	Great movie
## 6	1006	maria	1	5	It was great
## 7	1007	maria	2	5	It was amazing
## 8	1008	maria	3	5	so funny
## 9	1009	maria	4	NA	<NA>
## 10	1010	maria	5	5	classic
## 11	1011	abraham	1	5	It was good
## 12	1012	abraham	2	3	It was ok
## 13	1013	abraham	3	5	funny
## 14	1014	abraham	4	3	ok
## 15	1015	abraham	5	3	It was ok
## 16	1016	sarah	1	5	Cool
## 17	1017	sarah	2	NA	<NA>
## 18	1018	sarah	3	5	Nice
## 19	1019	sarah	4	2	could be better

## 20	1020	sarah	5	3	Cool
## 21	1021	Mariam	1	3	ok
## 22	1022	Mariam	2	NA	<NA>
## 23	1023	Mariam	3	NA	<NA>
## 24	1024	Mariam	4	NA	<NA>
## 25	1025	Mariam	5	5	good

3rd Query

Selecting query normally through its relational properties.

```
query3="select id, name_movie, director, user_name, rating, review
from movies, ratings;"

send_query3=dbSendQuery(conn1, query3)
df3=fetch(send_query3)
df3
```

##	id	name_movie	director	user_name	rating	review
## 1	5	Toy Story	John Lasseter	laibah	5	Great movie
## 2	4	Ip Man	Wilson Yip	laibah	5	Great movie
## 3	3	3 Idiots	Rajkumar Hirani	laibah	5	Great movie
## 4	2	The Intouchables	Olivier Nakache	laibah	5	Great movie
## 5	1	Inception	Christopher Nolan	laibah	5	Great movie
## 6	5	Toy Story	John Lasseter	laibah	5	Amazing
## 7	4	Ip Man	Wilson Yip	laibah	5	Amazing
## 8	3	3 Idiots	Rajkumar Hirani	laibah	5	Amazing
## 9	2	The Intouchables	Olivier Nakache	laibah	5	Amazing
## 10	1	Inception	Christopher Nolan	laibah	5	Amazing
## 11	5	Toy Story	John Lasseter	laibah	NA	<NA>
## 12	4	Ip Man	Wilson Yip	laibah	NA	<NA>
## 13	3	3 Idiots	Rajkumar Hirani	laibah	NA	<NA>
## 14	2	The Intouchables	Olivier Nakache	laibah	NA	<NA>
## 15	1	Inception	Christopher Nolan	laibah	NA	<NA>
## 16	5	Toy Story	John Lasseter	laibah	NA	<NA>
## 17	4	Ip Man	Wilson Yip	laibah	NA	<NA>
## 18	3	3 Idiots	Rajkumar Hirani	laibah	NA	<NA>
## 19	2	The Intouchables	Olivier Nakache	laibah	NA	<NA>
## 20	1	Inception	Christopher Nolan	laibah	NA	<NA>
## 21	5	Toy Story	John Lasseter	laibah	4	Great movie
## 22	4	Ip Man	Wilson Yip	laibah	4	Great movie
## 23	3	3 Idiots	Rajkumar Hirani	laibah	4	Great movie
## 24	2	The Intouchables	Olivier Nakache	laibah	4	Great movie
## 25	1	Inception	Christopher Nolan	laibah	4	Great movie
## 26	5	Toy Story	John Lasseter	maria	5	It was great
## 27	4	Ip Man	Wilson Yip	maria	5	It was great
## 28	3	3 Idiots	Rajkumar Hirani	maria	5	It was great
## 29	2	The Intouchables	Olivier Nakache	maria	5	It was great
## 30	1	Inception	Christopher Nolan	maria	5	It was great
## 31	5	Toy Story	John Lasseter	maria	5	It was amazing
## 32	4	Ip Man	Wilson Yip	maria	5	It was amazing
## 33	3	3 Idiots	Rajkumar Hirani	maria	5	It was amazing
## 34	2	The Intouchables	Olivier Nakache	maria	5	It was amazing

## 35	1	Inception	Christopher Nolan	maria	5	It was amazing
## 36	5	Toy Story	John Lasseter	maria	5	so funny
## 37	4	Ip Man	Wilson Yip	maria	5	so funny
## 38	3	3 Idiots	Rajkumar Hirani	maria	5	so funny
## 39	2	The Intouchables	Olivier Nakache	maria	5	so funny
## 40	1	Inception	Christopher Nolan	maria	5	so funny
## 41	5	Toy Story	John Lasseter	maria	NA	<NA>
## 42	4	Ip Man	Wilson Yip	maria	NA	<NA>
## 43	3	3 Idiots	Rajkumar Hirani	maria	NA	<NA>
## 44	2	The Intouchables	Olivier Nakache	maria	NA	<NA>
## 45	1	Inception	Christopher Nolan	maria	NA	<NA>
## 46	5	Toy Story	John Lasseter	maria	5	classic
## 47	4	Ip Man	Wilson Yip	maria	5	classic
## 48	3	3 Idiots	Rajkumar Hirani	maria	5	classic
## 49	2	The Intouchables	Olivier Nakache	maria	5	classic
## 50	1	Inception	Christopher Nolan	maria	5	classic
## 51	5	Toy Story	John Lasseter	abraham	5	It was good
## 52	4	Ip Man	Wilson Yip	abraham	5	It was good
## 53	3	3 Idiots	Rajkumar Hirani	abraham	5	It was good
## 54	2	The Intouchables	Olivier Nakache	abraham	5	It was good
## 55	1	Inception	Christopher Nolan	abraham	5	It was good
## 56	5	Toy Story	John Lasseter	abraham	3	It was ok
## 57	4	Ip Man	Wilson Yip	abraham	3	It was ok
## 58	3	3 Idiots	Rajkumar Hirani	abraham	3	It was ok
## 59	2	The Intouchables	Olivier Nakache	abraham	3	It was ok
## 60	1	Inception	Christopher Nolan	abraham	3	It was ok
## 61	5	Toy Story	John Lasseter	abraham	5	funny
## 62	4	Ip Man	Wilson Yip	abraham	5	funny
## 63	3	3 Idiots	Rajkumar Hirani	abraham	5	funny
## 64	2	The Intouchables	Olivier Nakache	abraham	5	funny
## 65	1	Inception	Christopher Nolan	abraham	5	funny
## 66	5	Toy Story	John Lasseter	abraham	3	ok
## 67	4	Ip Man	Wilson Yip	abraham	3	ok
## 68	3	3 Idiots	Rajkumar Hirani	abraham	3	ok
## 69	2	The Intouchables	Olivier Nakache	abraham	3	ok
## 70	1	Inception	Christopher Nolan	abraham	3	ok
## 71	5	Toy Story	John Lasseter	abraham	3	It was ok
## 72	4	Ip Man	Wilson Yip	abraham	3	It was ok
## 73	3	3 Idiots	Rajkumar Hirani	abraham	3	It was ok
## 74	2	The Intouchables	Olivier Nakache	abraham	3	It was ok
## 75	1	Inception	Christopher Nolan	abraham	3	It was ok
## 76	5	Toy Story	John Lasseter	sarah	5	Cool
## 77	4	Ip Man	Wilson Yip	sarah	5	Cool
## 78	3	3 Idiots	Rajkumar Hirani	sarah	5	Cool
## 79	2	The Intouchables	Olivier Nakache	sarah	5	Cool
## 80	1	Inception	Christopher Nolan	sarah	5	Cool
## 81	5	Toy Story	John Lasseter	sarah	NA	<NA>
## 82	4	Ip Man	Wilson Yip	sarah	NA	<NA>
## 83	3	3 Idiots	Rajkumar Hirani	sarah	NA	<NA>
## 84	2	The Intouchables	Olivier Nakache	sarah	NA	<NA>
## 85	1	Inception	Christopher Nolan	sarah	NA	<NA>
## 86	5	Toy Story	John Lasseter	sarah	5	Nice
## 87	4	Ip Man	Wilson Yip	sarah	5	Nice
## 88	3	3 Idiots	Rajkumar Hirani	sarah	5	Nice

## 89	2	The Intouchables	Olivier Nakache	sarah	5	Nice
## 90	1	Inception	Christopher Nolan	sarah	5	Nice
## 91	5	Toy Story	John Lasseter	sarah	2	could be better
## 92	4	Ip Man	Wilson Yip	sarah	2	could be better
## 93	3	3 Idiots	Rajkumar Hirani	sarah	2	could be better
## 94	2	The Intouchables	Olivier Nakache	sarah	2	could be better
## 95	1	Inception	Christopher Nolan	sarah	2	could be better
## 96	5	Toy Story	John Lasseter	sarah	3	Cool
## 97	4	Ip Man	Wilson Yip	sarah	3	Cool
## 98	3	3 Idiots	Rajkumar Hirani	sarah	3	Cool
## 99	2	The Intouchables	Olivier Nakache	sarah	3	Cool
## 100	1	Inception	Christopher Nolan	sarah	3	Cool
## 101	5	Toy Story	John Lasseter	Mariam	3	ok
## 102	4	Ip Man	Wilson Yip	Mariam	3	ok
## 103	3	3 Idiots	Rajkumar Hirani	Mariam	3	ok
## 104	2	The Intouchables	Olivier Nakache	Mariam	3	ok
## 105	1	Inception	Christopher Nolan	Mariam	3	ok
## 106	5	Toy Story	John Lasseter	Mariam	NA	<NA>
## 107	4	Ip Man	Wilson Yip	Mariam	NA	<NA>
## 108	3	3 Idiots	Rajkumar Hirani	Mariam	NA	<NA>
## 109	2	The Intouchables	Olivier Nakache	Mariam	NA	<NA>
## 110	1	Inception	Christopher Nolan	Mariam	NA	<NA>
## 111	5	Toy Story	John Lasseter	Mariam	NA	<NA>
## 112	4	Ip Man	Wilson Yip	Mariam	NA	<NA>
## 113	3	3 Idiots	Rajkumar Hirani	Mariam	NA	<NA>
## 114	2	The Intouchables	Olivier Nakache	Mariam	NA	<NA>
## 115	1	Inception	Christopher Nolan	Mariam	NA	<NA>
## 116	5	Toy Story	John Lasseter	Mariam	NA	<NA>
## 117	4	Ip Man	Wilson Yip	Mariam	NA	<NA>
## 118	3	3 Idiots	Rajkumar Hirani	Mariam	NA	<NA>
## 119	2	The Intouchables	Olivier Nakache	Mariam	NA	<NA>
## 120	1	Inception	Christopher Nolan	Mariam	NA	<NA>
## 121	5	Toy Story	John Lasseter	Mariam	5	good
## 122	4	Ip Man	Wilson Yip	Mariam	5	good
## 123	3	3 Idiots	Rajkumar Hirani	Mariam	5	good
## 124	2	The Intouchables	Olivier Nakache	Mariam	5	good
## 125	1	Inception	Christopher Nolan	Mariam	5	good

4th Query

Joining movies and ratings table

```
query4="select id, name_movie, year_released, user_name, rating, review
from movies
left join ratings
on movies.id=ratings.movie_id;"

send_query4=dbSendQuery(conn1, query4)
df4=fetch(send_query4)
df4
```

##	id	name_movie	year_released	user_name	rating	review
## 1	1	Inception	2010	laibah	5	Great movie

## 2	1	Inception	2010	maria	5	It was great
## 3	1	Inception	2010	abraham	5	It was good
## 4	1	Inception	2010	sarah	5	Cool
## 5	1	Inception	2010	Mariam	3	ok
## 6	2	The Intouchables	2011	laibah	5	Amazing
## 7	2	The Intouchables	2011	maria	5	It was amazing
## 8	2	The Intouchables	2011	abraham	3	It was ok
## 9	2	The Intouchables	2011	sarah	NA	<NA>
## 10	2	The Intouchables	2011	Mariam	NA	<NA>
## 11	3	3 Idiots	2009	laibah	NA	<NA>
## 12	3	3 Idiots	2009	maria	5	so funny
## 13	3	3 Idiots	2009	abraham	5	funny
## 14	3	3 Idiots	2009	sarah	5	Nice
## 15	3	3 Idiots	2009	Mariam	NA	<NA>
## 16	4	Ip Man	2010	laibah	NA	<NA>
## 17	4	Ip Man	2010	maria	NA	<NA>
## 18	4	Ip Man	2010	abraham	3	ok
## 19	4	Ip Man	2010	sarah	2	could be better
## 20	4	Ip Man	2010	Mariam	NA	<NA>
## 21	5	Toy Story	1995	laibah	4	Great movie
## 22	5	Toy Story	1995	maria	5	classic
## 23	5	Toy Story	1995	abraham	3	It was ok
## 24	5	Toy Story	1995	sarah	3	Cool
## 25	5	Toy Story	1995	Mariam	5	good

5th Query

Selecting average rating for movies and the count of reviews

```
query5="select joined.id, joined.name_movie, avg(joined.rating) AS Average_Rating, count(rating) AS Number_of_Reviews
from movies
left join ratings
on movies.id=ratings.movie_id) as joined
group by name_movie;"
```

```
send_query5=dbSendQuery(conn1, query5)
```

```
## Warning in .local(conn, statement, ...): Decimal MySQL column 2 imported as
## numeric
```

```
df5=fetch(send_query5)
df5
```

##	id	name_movie	Average_Rating	Number_of_Reviews
## 1	1	Inception	4.6000	5
## 2	2	The Intouchables	4.3333	3
## 3	3	3 Idiots	5.0000	3
## 4	4	Ip Man	2.5000	2
## 5	5	Toy Story	4.0000	5