DSBDA Assignment 5 : Facebook Metrics

* Aim : Perform the following operations on facebook metrics dataset
  i) Data subset
  ii) Merge data
  iii) Sort data
  iv) Transposing data
  v) Melt data to long format
  vi) Cast data into wide format

* Theory :

Q1) What is R ? Explain the features of R.

Ans :- R is a programming language & free software enviroment for statistical computing & graphics supported by the R Foundation for statistical computing. R language is widely used for statistics.

- R provides a wide variety of statistical (linear & non - linear modelling) and graphical techniques and is highly extensible. It is often the choice for research in statistical methodology. R provides an open source route to participation in that activity.

- One of R's strengths is the ease with which well designed publication quality plots can be produced, including mathematical symbols &

Formulae where needed.

- Features of R:

i) Comprehensive Language: R is a comprehensive language, ie, it provides services for statistical modelling & development.

ii) Provides a wide array of packages: R has a wide availability of libraries. CRAN holds more than 10,0000 packages.

iii) Possess graphical libraries: These librabries allow us to make aesthetic & quality visualization.

iv) Open Source: Running R is free & doesn't require a license.

Q2) What is the use of melting & casting in R?

Ans: i) Melting in R: melting is done to organize the data. It is performed using the melt() function from reshape library.

Syntax: melt(data, na.rm = False, value.name = "value")

Using melt() data is converted to long format & dataframe is stretched.

ii) Casting in R : Casting is performed to reshape the molten data using cast() function which takes data & aggregate function. Used to convert data from long format to wide format.

Syntax : cast(data, formula, fun.aggregate)

* Conclusion : R Assignment on facebook dataset has been successfully implemented.

Facebook.R

```
print('Opening the CSV file')

csvFile <- "F:/College Assignements/DSBDA/Assignment 1 Group B/dataset_Faceboo
k.csv"

facebookData <- read.csv(csvFile, sep = ';')

# merge data

subsetData <- facebookData[1:7, 1:8]
otherSubset <- facebookData[, 1:4]
mergedData <- merge(subsetData, otherSubset, by = "Type")


#rbind and cbind

subset3 <- facebookData[,1:2]
subset4 <- facebookData[,3:4]
colBind <- cbind(subset3, subset4)
colBind

subset5 <- facebookData[1:10, c(1,2,3,4)]
subset6 <- facebookData[11:20, c(1,2,3,4)]
rowBind <- rbind(subset5, subset6)
rowBind


# sorting

sortedByLikes <- facebookData[order(facebookData$like, decreasing = "True"), c
(1,2,3,4,17)]
head(sortedByLikes)

# transposing

transpose <- t(subsetData)
View(transpose)

library("reshape")

# for every combination of type-category, every other variable
# will add as a third column along with it's value
molten <- melt(facebookData, id = c("Type","Category"))
View(molten)

# for every kind of type there'll be one record
castData <- cast(molten, fun.aggregate = max)
View(castData)
```

Output

```
> print('Opening the CSV file')
[1] "Opening the CSV file"
>
> csvFile <- "F:/College Assignements/DSBDA/Assignment 1 Group B/dataset_Facebook.csv"
>
> facebookData <- read.csv(csvFile, sep = ';')
>
> # merge data
>
> subsetData <- facebookData[1:7, 1:8]
> otherSubset <- facebookData[, 1:4]
> mergedData <- merge(subsetData, otherSubset, by = "Type")
>
>
> #rbind and cbind
>
> subset3 <- facebookData[,1:2]
> subset4 <- facebookData[,3:4]
> colBind <- cbind(subset3, subset4)
> colBind
    Page.total.likes   Type Category Post.Month
1             139441  Photo        2         12
2             139441 Status        2         12
3             139441  Photo        3         12
4             139441  Photo        2         12
5             139441  Photo        2         12
6             139441 Status        2         12
7             139441  Photo        3         12
8             139441  Photo        3         12
9             139441 Status        2         12
10            139441  Photo        3         12
11            139441 Status        2         12
12            139441  Photo        2         12
13            139441  Photo        2         12
14            139441  Photo        2         12
15            138414  Photo        2         12
16            138414 Status        2         12
17            138414  Photo        3         12
18            138414  Photo        1         12
19            138414 Status        3         12
20            138414  Photo        3         12
21            138414  Photo        2         12
22            138414  Photo        1         12
23            138414   Link        1         12
24            138414  Photo        3         12
25            138414 Status        2         12
26            138458 Status        2         12
27            138458 Status        2         12
28            138458  Photo        3         12
29            138895  Photo        2         12
30            138895  Video        1         12
31            138895  Photo        2         12
32            138895  Photo        2         12
33            138895  Photo        3         12
34            138895  Photo        3         12
35            138895  Photo        1         12
36            138895  Photo        2         12
37            138895  Photo        3         12
38            138895  Photo        1         12
39            138895 Status        2         12
40            138895  Photo        1         12
41            138895 Status        2         12
42            138895   Link        1         12
43            138353  Photo        1         12
44            138353   Link        1         12
45            138353  Photo        1         12
```

46	138353	Link	1	12
47	138353	Status	1	12
48	138353	Link	1	12
49	138353	Photo	1	12
50	138353	Link	1	12
51	138353	Photo	2	11
52	138329	Photo	1	11
53	138329	Photo	1	11
54	138329	Photo	1	11
55	138329	Photo	1	11
56	138329	Video	1	11
57	138329	Photo	1	11
58	138329	Photo	1	11
59	138329	Photo	1	11
60	138329	Photo	1	11
61	138185	Photo	1	11
62	138185	Photo	1	11
63	138185	Photo	1	11
64	138185	Photo	1	11
65	138185	Photo	1	11
66	138185	Photo	1	11
67	138185	Photo	1	11
68	138185	Photo	1	11
69	138185	Photo	1	11
70	137893	Photo	1	11
71	137893	Photo	1	11
72	137893	Video	1	11
73	137893	Status	3	11
74	137893	Photo	1	11
75	137893	Video	1	11
76	137893	Photo	1	11
77	137893	Photo	1	11
78	137177	Photo	1	11
79	137177	Photo	2	11
80	137177	Photo	1	11
81	137177	Status	2	11
82	137177	Photo	3	11
83	137177	Photo	1	11
84	137177	Photo	3	11
85	137177	Status	3	11
86	137177	Photo	1	11
87	137177	Link	1	11
88	137177	Photo	3	11
89	137177	Photo	1	11
90	137059	Photo	1	11
91	137059	Photo	1	11
92	137059	Photo	2	11
93	137059	Photo	3	11
94	137059	Photo	3	11
95	137059	Photo	2	11
96	137059	Photo	3	10
97	137059	Photo	1	10
98	137059	Photo	2	10
99	137020	Status	2	10
100	137020	Photo	1	10
101	137020	Photo	1	10
102	137020	Photo	2	10
103	137020	Photo	3	10
104	137020	Photo	1	10
105	137020	Photo	1	10
106	137020	Photo	1	10
107	137020	Photo	3	10
108	136736	Status	2	10
109	136736	Photo	3	10
110	136736	Status	2	10
111	136736	Photo	1	10
112	136736	Photo	1	10
113	136736	Photo	2	10
114	136642	Photo	2	10
115	136642	Photo	1	10
116	136642	Photo	1	10
117	136642	Photo	1	10

118	136642	Photo	1	10
119	136642	Photo	1	10
120	136393	Photo	1	10
121	136393	Photo	1	10
122	136393	Status	2	10
123	136393	Photo	1	10
124	136393	Photo	1	10
125	136393	Photo	1	10
126	136393	Photo	1	10
127	136393	Photo	3	10
128	136393	Photo	1	10
129	136393	Photo	1	10
130	136393	Photo	1	10
131	136393	Photo	1	10
132	136393	Photo	1	10
133	136393	Photo	1	10
134	136393	Photo	1	10
135	136393	Photo	1	10
136	136393	Photo	1	10
137	136393	Link	1	10
138	136013	Photo	1	10
139	136013	Status	2	10
140	136013	Photo	1	10
141	136013	Link	1	10
142	136013	Status	3	10
143	136013	Status	2	10
144	136013	Photo	3	10
145	136013	Photo	1	10
146	136013	Photo	1	10
147	136013	Photo	3	10
148	135713	Photo	3	10
149	135713	Status	2	10
150	135713	Link	1	10
151	135713	Photo	1	10
152	135713	Photo	2	10
153	135713	Photo	2	10
154	135713	Photo	1	10
155	135713	Photo	2	10
156	135700	Photo	2	9
157	135700	Photo	2	9
158	135700	Photo	3	9
159	135700	Photo	2	9
160	135617	Photo	2	9
161	135617	Photo	3	9
162	135617	Photo	2	9
163	135617	Photo	3	9
164	135617	Status	2	9
165	135428	Photo	1	9
166	135428	Photo	2	9
167	135428	Photo	1	9
168	135428	Photo	3	9
169	135428	Photo	1	9
170	135428	Photo	2	9
171	135195	Photo	3	9
172	135195	Photo	1	9
173	135195	Status	2	9
174	135195	Photo	1	9
175	135195	Photo	2	9
176	135195	Status	2	9
177	135195	Photo	3	9
178	135195	Photo	1	9
179	135195	Photo	2	9
180	135195	Photo	2	9
181	134879	Status	2	9
182	134879	Photo	1	9
183	134879	Photo	3	9
184	134879	Video	1	9
185	134879	Photo	2	9
186	134879	Photo	1	9
187	134879	Photo	2	9
188	134879	Photo	2	9
189	134879	Photo	3	9

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190           133679  Photo        2          9
191           133679  Photo        3          9
192           133679  Photo        3          8
193           133679  Photo        2          8
194           133594  Photo        2          8
195           133594  Photo        1          8
196           133594  Photo        2          8
197           133594  Photo        1          8
198           133594  Photo        2          8
199           133451  Photo        1          8
200           132817  Photo        3          8
201           132817  Photo        2          8
202           132817  Photo        1          8
203           132817 Status        2          8
204           132817  Photo        3          8
205           132817  Photo        3          8
206           132201  Photo        1          8
207           132201  Photo        1          8
208           132201  Photo        2          8
209           132201  Photo        3          8
210           132201  Photo        2          8
211           132201  Photo        3          8
212           132201  Photo        3          8
213           132201  Photo        2          8
214           132201  Photo        3          8
215           132201  Photo        3          8
216           131956  Photo        1          8
217           131956  Photo        2          8
218           131956 Status        2          8
219           131956  Photo        1          8
220           131956  Photo        3          8
221           131956  Photo        2          8
222           131956  Photo        3          8
223           131808 Status        2          8
224           131808 Status        2          8
225           131808  Photo        1          8
226           131808 Status        2          7
227           131728  Photo        3          7
228           131728  Photo        1          7
229           131728  Photo        2          7
230           131630  Photo        2          7
231           131630  Photo        3          7
232           131630  Photo        3          7
233           131630 Status        2          7
234           131630  Photo        1          7
235           131630  Photo        2          7
236           131300 Status        2          7
237           131300  Photo        3          7
238           131300  Photo        2          7
239           131300  Photo        1          7
240           130791  Photo        2          7
241           130791  Photo        3          7
242           130791  Photo        1          7
243           130791 Status        2          7
244           130791  Video        1          7
245           130791  Photo        2          7
246           130791  Photo        1          7
247           130791  Photo        2          7
248           129600  Photo        2          7
249           129600  Photo        3          7
250           129600  Photo        2          7
 [ reached 'max' / getOption("max.print") -- omitted 250 rows ]
>
> subset5 <- facebookData[1:10, c(1,2,3,4)]
> subset6 <- facebookData[11:20, c(1,2,3,4)]
> rowBind <- rbind(subset5, subset6)
> rowBind
   Page.total.likes   Type Category Post.Month
1            139441  Photo        2         12
2            139441 Status        2         12
3            139441  Photo        3         12
4            139441  Photo        2         12
```

```
5            139441  Photo        2         12
6            139441 Status        2         12
7            139441  Photo        3         12
8            139441  Photo        3         12
9            139441 Status        2         12
10           139441  Photo        3         12
11           139441 Status        2         12
12           139441  Photo        2         12
13           139441  Photo        2         12
14           139441  Photo        2         12
15           138414  Photo        2         12
16           138414 Status        2         12
17           138414  Photo        3         12
18           138414  Photo        1         12
19           138414 Status        3         12
20           138414  Photo        3         12
>
>
> # sorting
>
> sortedByLikes <- facebookData[order(facebookData$like, decreasing = "True"), c(1,2,3,4,17
)]
> head(sortedByLikes)
    Page.total.likes  Type Category Post.Month like
245           130791 Photo        2          7 5172
380           111620 Photo        3          4 1998
350           117764 Photo        3          5 1639
169           135428 Photo        1          9 1622
4             139441 Photo        2         12 1572
461            92507 Photo        3          2 1546
>
> # transposing
>
> transpose <- t(subsetData)
> View(transpose)
>
> library("reshape")
>
> # for every combination of type-category, every other variable
> # will add as a third column along with it's value
> molten <- melt(facebookData, id = c("Type","Category"))
> View(molten)
>
> # for every kind of type there'll be one record
> castData <- cast(molten, fun.aggregate = max)
> View(castData)
```