Project: Using Dataset perform operations and make plot and pie from that database data and make subset from dataset and write into another file.

Code:

```
if(!require(DBI)) {
  install.packages("DBI")
  library(DBI)
}

if(!require(RSQLite)) {
  install.packages("RSQLite")
  library(RSQLite)
}

if(!require(dbplyr)) {
  install.packages("dbplyr")
  library(dbplyr)
} else {
  library(dplyr)
}

if(!require(RMySQL)) {
  install.packages("RMySQL")
  library(RMySQL)
}
```

```
print("\n\nPackage DBI, RSQLite, & dbplyr are installed")

constring <- dbConnect(MySQL(), user="root", password="", dbname="22it608",
host="localhost")


if(dbIsValid(constring)) {

  cat("\n\nDatabase connection successfull.")

  cat("\n\nThe 22it608 database has tables : \n")

  tables <- dbListTables(constring)

  print(tables)


  sql_query <- "SELECT * FROM used_bikes"

  data <- dbGetQuery(constring, sql_query)


  cat("\nRows in the used_bikes dataset is :",nrow(data))

  cat("\nColums in the used_bikes dataset is :",ncol(data))

  cat("\nNames of variables in the used_bikes dataset is :")

  print(names(data))


  cat("\nUsing used_bikes dataset for perform operations\n")


  cat("\nCity Column First 5 Row data in the used_bikes dataset is :\n")

  print(head(data$city, 5))


  cat("\nCity Column Last 5 Row data in the used_bikes dataset is :\n")
```

```
print(tail(data$City, 5))

cat("\nPrice Column First 10 Row data without sort in the used_bikes dataset is :\n")
print(head(data$Price, 10))

cat("\nPrice Column First 10 Row data with sort in the used_bikes dataset is :\n")
print(sort(head(data$Price, 10)))

cat("\nPrice Column First 10 Row data with summary in the used_bikes dataset is :\n")
print(summary(head(data$Price, 10)))

cat("\nPrice Column First 10 Row data sum in the used_bikes dataset is :\n")
print(sum(head(data$Price, 10)))

cat("\nPrice Column First 10 Row data with square root in the used_bikes dataset is :\n")
print(head(data$Price, 10))
cat("\n")
print(sqrt(head(data$Price, 10)))

cat("\nGlimpse with 5 head data of used_bikes dataset is :\n")
print(glimpse(head(data, 5)))

cat("\nBikes data which price is greater than 70000 of used_bikes dataset is :\n")
print(filter(data, Price > 70000))
```

```
  cat("\nBikes apply on EMI than per month EMI amount column added in used_bikes dataset for first 10 records is :\n")

  data <- mutate(data, EMI = Price/12)

  print(head(data$EMI, 10))


  View(data)


  plot(head(data$Power, 10), head(data$Age, 10), col="#cc0020", main ="Power vs. Age", xlab= "Power", ylab="Age")


  pie(head(data$Price, 10), head(data$Power, 10), main="Brand : Power",col=rainbow(length(head(data$Price, 10))))


  data <- read.csv("ProjectCsv.csv")


  Power = data$Power

  Name =data$Name


  Values <- NULL(data$Name, nrow = 1 , ncol = 4, byrow = TRUE)


  png(file = "Project_bar.png")


  barplot(Values, main = "Name : Power", names.arg = month, xlab = "Power", ylab = "Name", col = colors)
```

```
  dev.off()



  Data_Frame <- data.frame(
    Brand = data$Brand,
    Name = data$Name,
    Price = data$Price,
    Kms = data$Power
  )

  cat("\nWrite New File With Brand, Name, Price & Kms column 100 \n")
  setwd("D:/SEM 5/APP/Project")
  write.csv(head(Data_Frame, 100), "ProjectCsv.csv")

  if(dbDisconnect(constring)) {
    cat("\n\nThe connection disconnected")
  }
} else {
  print("\n\nDatabase connection failed.")
}
```

Output:

- **List of tables n database by dbListTables()**

```
> source("D:/SEM 5/APP/Project/project.R")
[1] "\n\nPackage DBI, RSQLite, & dbplyr are installed"


Database connection successfull.

The 22it608 database has tables :
[1] "used_bikes"
```

- **Raws & column of used_bikes by nrow() & ncol():**

```
Rows in the used_bikes dataset is : 4835
Colums in the used_bikes dataset is : 6
Names of variables in the used_bikes dataset is :[1] "Name"  "Price" "City"  "Age"   "Power" "Brand"
```

- **Head & Tail operation on used bikes**

```
Using used_bikes dataset for perform operations

City Column First 5 Row data in the used_bikes dataset is :
NULL

City Column Last 5 Row data in the used_bikes dataset is :
[1] "Hyderabad" "Noida"     "Delhi"     "Kasargode" "Solapur"
```

- **Sort & Summary operation on used bikes**

```
Price Column First 10 Row data without sort in the used_bikes dataset is :
 [1]  35000 600000  80000  53499  85000  45000 145000  29499  90000 120000

Price Column First 10 Row data with sort in the used_bikes dataset is :
 [1]  29499  35000  45000  53499  80000  85000  90000 120000 145000 600000

Price Column First 10 Row data with summary in the used_bikes dataset is :
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  29499   47125   82500  128300  112500  600000
```

- **Sum & Square Root operation on used bikes**

```
Price Column First 10 Row data sum in the used_bikes dataset is :
[1] 1282998

Price Column First 10 Row data with square root in the used_bikes dataset is :
 [1]  35000 600000  80000  53499  85000  45000 145000  29499  90000 120000

 [1] 187.0829 774.5967 282.8427 231.2985 291.5476 212.1320 380.7887 171.7527 300.0000 346.4102
```

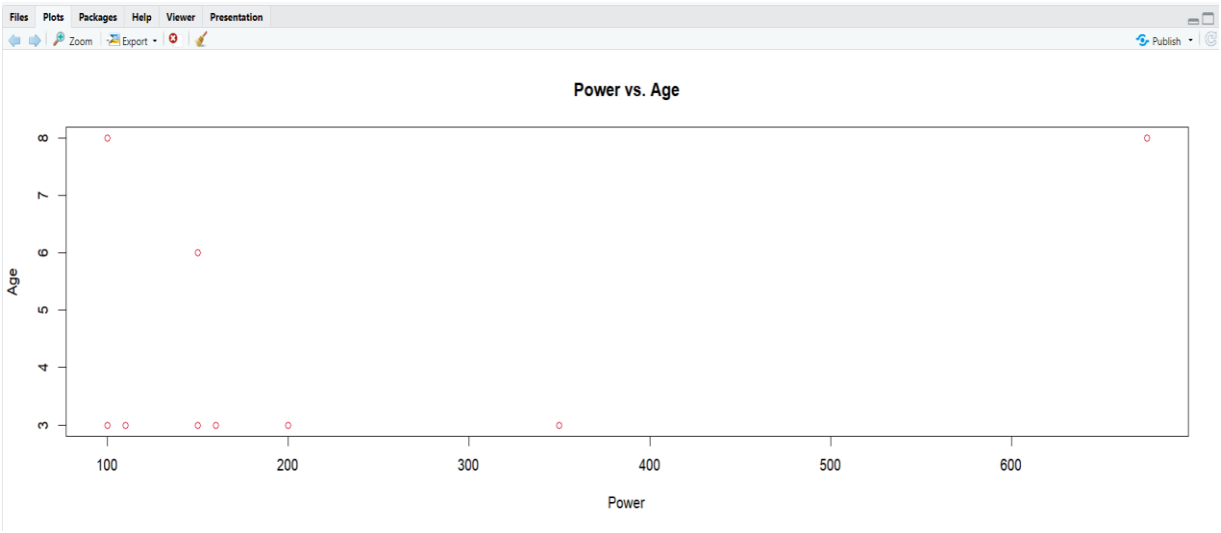
- **Glimpse & Filter operation on used_bikes:**

```
Glimpse with 5 head data of used_bikes dataset is :
Rows: 5
Columns: 6
$ Name  <chr> "TVS Star City Plus Dual Tone 110cc", "Triumph Daytona 675R", "Yamaha FZ S V 2.0 150cc-Ltd. Edition", "Yamaha FZs…
$ Price <int> 35000, 600000, 80000, 53499, 85000
$ City  <chr> "Ahmedabad", "Delhi", "Bangalore", "Delhi", "Delhi"
$ Age   <chr> "3", "8", "3", "6", "3"
$ Power <chr> "110", "675", "150", "150", "160"
$ Brand <chr> "TVS", "Triumph", "Yamaha", "Yamaha", "Honda"
                              Name  Price      City Age Power   Brand
1   TVS Star City Plus Dual Tone 110cc  35000 Ahmedabad   3   110     TVS
2                Triumph Daytona 675R 600000     Delhi   8   675 Triumph
3 Yamaha FZ S V 2.0 150cc-Ltd. Edition  80000 Bangalore   3   150  Yamaha
4                     Yamaha FZs 150cc  53499     Delhi   6   150  Yamaha
5        Honda CB Hornet 160R  ABS DLX  85000     Delhi   3   160   Honda
```

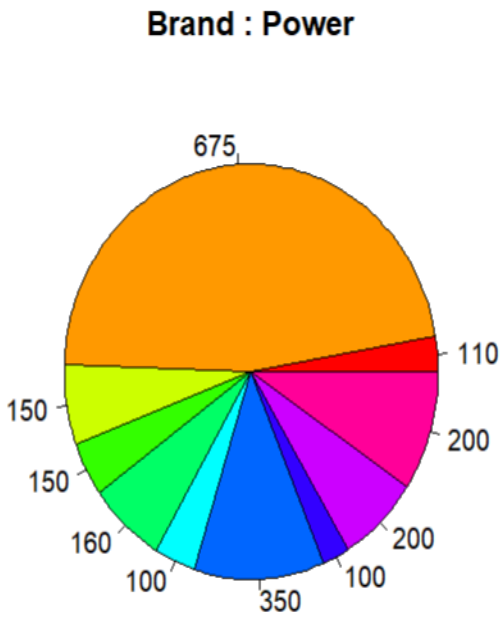
- **Mutant operation for add EMI on used_bikes based on price:**

```
Bikes data which price is greater than 70000 of used_bikes dataset is :
                                          Name   Price         City Age Power           Brand
1                                Triumph Daytona 675R  600000        Delhi   8   675         Triumph
2              Yamaha FZ S V 2.0 150cc-Ltd. Edition   80000    Bangalore   3   150          Yamaha
3                    Honda CB Hornet 160R  ABS DLX   85000        Delhi   3   160           Honda
4                  Royal Enfield Thunderbird X 350cc  145000    Bangalore   3   350   Royal Enfield
5                             Bajaj Pulsar NS200 ABS   90000    Bangalore   3   200           Bajaj
6                             Bajaj Pulsar RS200 ABS  120000    Bangalore   3   200           Bajaj
7                                 Benelli 302R 300CC  240000       Mumbai   3   302         Benelli
8                             Bajaj Pulsar RS200 ABS  120000    Bangalore   3   200           Bajaj
9                  Royal Enfield Classic Chrome 500cc  121700       Kalyan   5   500   Royal Enfield
10                           Honda X-Blade 160CC ABS   81200       Mettur   2   160           Honda
```

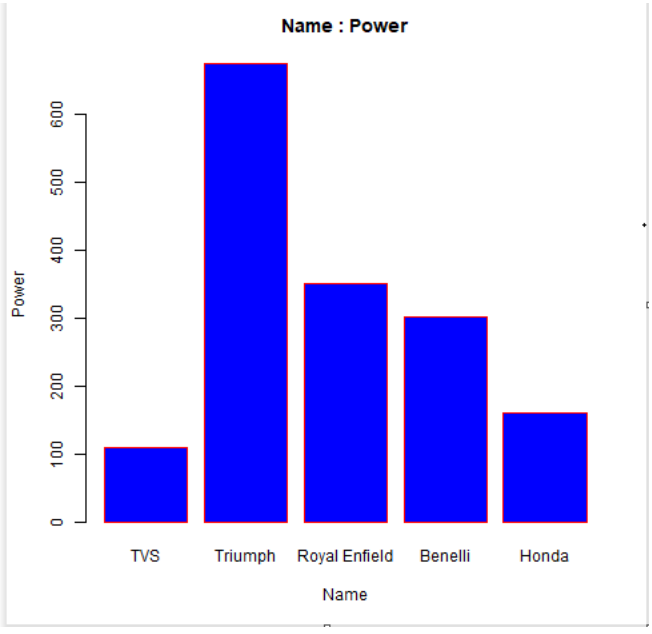
- **Ploting on price vs. milege from used_bikes of 20 data:**



- **Prepare pie on power and brand from used_bikes of 10 data:**



- **Bar graph representation on power corresponding to brand:**



- **Top 100 data of Brand, Model, Price & EMI write into another file:**

	A	B	C	D	E	F
1		Brand	Name	Price	Kms	
2	1	TVS	TVS Star C	35000	17654	
3	2	Royal Enfi	Royal Enfi	119900	11000	
4	3	Triumph	Triumph D	600000	110	
5	4	TVS	TVS Apach	65000	16329	
6	5	Yamaha	Yamaha F	80000	10000	
7	6	Yamaha	Yamaha F	53499	25000	
8	7	Honda	Honda CB	85000	8200	
9	8	Hero	Hero Sple	45000	12645	
10	9	Royal Enfi	Royal Enfi	145000	9190	
11	10	Royal Enfi	Royal Enfi	88000	19000	
12	11	Yamaha	Yamaha Y	72000	20000	
13	12	Yamaha	Yamaha F	95000	9665	
14	13	Bajaj	Bajaj Puls	78000	9900	
15	14	Bajaj	Bajaj Disc	29499	20000	
16	15	Bajaj	Bajaj Disc	29900	20000	
17	16	Bajaj	Bajaj Puls	90000	11574	
18	17	Bajaj	Bajaj Puls	120000	23000	
19	18	Suzuki	Suzuki Gix	48000	24725	
20	19	Benelli	Benelli 30	240000	15025	
21	20	Bajaj	Bajaj Disc	29900	20000	
22	21	Bajaj	Bajaj Puls	120000	23000	
23	22	Suzuki	Suzuki Gix	48000	24725	
24	23	Hero	Hero Sple	46500	3500	
25	24	Royal Enfi	Royal Enfi	121700	24520	
26	25	Yamaha	Yamaha F	45000	23000	
27	26	Bajaj	Bajaj Puls	78000	9900	
28	27	Hero	Hero Supe	20000	29305	
29	28	Honda	Honda CB	20800	30500	
30	29	Bajaj	Bajaj Puls	50000	19000	
31	30	Honda	Honda X-B	81200	9100	
32	31	Bajaj	Bajaj Puls	88000	21914	
33	32	Yamaha	Yamaha Y	80000	20000	
34	33	Bajaj	Bajaj Aver	40900	15000	
35	34	KTM	KTM RC 3!	180000	17700	
36	35	Honda	Honda CB	40000	30000	
37	36	KTM	KTM Duke	70000	100000	
38	37	Royal Enfi	Royal Enfi	98800	30000	

Project_Write

- **Dataset check with View():**

RStudio

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Go to file/function | Addins

Untitled1 | project.R | data

Filter

	Name	Price	City	Age	Power	Brand	EMI
1	TVS Star City Plus Dual Tone 110cc	35000	Ahmedabad	3	110	TVS	2916.6667
2	Triumph Daytona 675R	600000	Delhi	8	675	Triumph	50000.0000
3	Yamaha FZ S V 2.0 150cc-Ltd. Edition	80000	Bangalore	3	150	Yamaha	6666.6667
4	Yamaha FZs 150cc	53499	Delhi	6	150	Yamaha	4458.2500
5	Honda CB Hornet 160R ABS DLX	85000	Delhi	3	160	Honda	7083.3333
6	Hero Splendor Plus Self Alloy 100cc	45000	Delhi	3	100	Hero	3750.0000
7	Royal Enfield Thunderbird X 350cc	145000	Bangalore	3	350	Royal Enfield	12083.3333
8	Bajaj Discover 100M	29499	Delhi	8	100	Bajaj	2458.2500
9	Bajaj Pulsar NS200 ABS	90000	Bangalore	3	200	Bajaj	7500.0000
10	Bajaj Pulsar RS200 ABS	120000	Bangalore	3	200	Bajaj	10000.0000
11	Suzuki Gixxer SF 150cc	48000	Mumbai	5	150	Suzuki	4000.0000
12	Benelli 302R 300CC	240000	Mumbai	3	302	Benelli	20000.0000
13	Bajaj Pulsar RS200 ABS	120000	Bangalore	3	200	Bajaj	10000.0000
14	Suzuki Gixxer SF 150cc	48000	Mumbai	5	150	Suzuki	4000.0000
15	Hero Splendor iSmart Plus IBS 110cc	46500	Delhi	2	110	Hero	3875.0000
16	Royal Enfield Classic Chrome 500cc	121700	Kalyan	5	500	Royal Enfield	10141.6667
17	Yamaha FZ V 2.0 150cc	45000	Delhi	6	150	Yamaha	3750.0000
18	Hero Super Splendor 125cc	20000	Ahmedabad	16	125	Hero	1666.6667
19	Bajaj Pulsar 150cc	50000	Bangalore	8	150	Bajaj	4166.6667
20	Honda X-Blade 160CC ABS	81200	Mettur	2	160	Honda	6766.6667
21	Bajaj Pulsar NS200	88000	Hyderabad	3	200	Bajaj	7333.3333
22	Bajaj Avenger 220cc	40900	Gurgaon	6	220	Bajaj	3408.3333
23	Honda CB Unicorn 150cc	40000	Noida	8	150	Honda	3333.3333
24	KTM Duke 200cc	70000	Nashik	8	200	KTM	5833.3333
25	Royal Enfield Classic 350cc	98800	Kochi	5	350	Royal Enfield	8233.3333
26	Honda CBR 150R 150cc	65000	Allahabad	6	150	Honda	5416.6667

Showing 1 to 27 of 4,835 entries, 7 total columns