```
import pandas as pd
import numpy as np
import matplotlib as mp

df= pd.read_csv('./cus.csv')
df
```

	Index	Customer Id	First Name	Last Name	Company	City	Country	Phone 1
0	1	DD37Cf93aecA6Dc	Sheryl	Baxter	Rasmussen Group	East Leonard	Chile	229.077.5154
1	2	1Ef7b82A4CAAD10	Preston	Lozano	Vega-Gentry	East Jimmychester	Djibouti	5153435776
2	3	6F94879bDAfE5a6	Roy	Berry	Murillo-Perry	Isabelborough	Antigua and Barbuda	-1199
3	4	5Cef8BFA16c5e3c	Linda	Olsen	Dominguez, Mcmillan and Donovan	Bensonview	Dominican Republic	001-808-617-6467x12895
4	5	053d585Ab6b3159	Joanna	Bender	Martin, Lang and Andrade	West Priscilla	Slovakia (Slovak Republic)	001-234-203-0635x76146
5	6	2d08FB17EE273F4	Aimee	Downs	Steele Group	Chavezborough	Bosnia and Herzegovina	(283)437-3886x88321
6	7	EA4d384DfDbBf77	Darren	Peck	Lester, Woodard and Mitchell	Lake Ana	Pitcairn Islands	(496)452-6181x3291
7	8	0e04AFde9f225dE	Brett	Mullen	Sanford, Davenport and Giles	Kimport	Bulgaria	001-583-352-7197x297
8	9	C2dE4dEEc489ae0	Sheryl	Meyers	Browning-Simon	Robersonstad	Cyprus	854-138-4911x5772
9	10	8C2811a503C7c5a	Michelle	Gallagher	Beck-Hendrix	Elaineberg	Timor-Leste	739.218.2516x459
10	11	216E205d6eBb815	Carl	Schroeder	Oconnell, Meza and Everett	Shannonville	Guernsey	637-854-0256x825
11	12	CEDec94deE6d69B	Jenna	Dodson	Hoffman, Reed and Mcclain	East Andrea	Vietnam	(041)737-3846
12	13	e35426EbDEceaFF	Tracey	Mata	Graham-Francis	South Joannamouth	Togo	001-949-844-8787
13	14	A08A8aF8BE9FaD4	Kristine	Cox	Carpenter-Cook	Jodyberg	Sri Lanka	786-284-3358x62152
14	15	6fEaA1b7cab7B6C	Faith	Lutz	Carter-Hancock	Burchbury	Singapore	(781)861-7180x8306
15	16	8cad0b4CBceaeec	Miranda	Beasley	Singleton and Sons	Desireeshire	Oman	540.085.3135x185
16	17	a5DC21AE3a21eaA	Caroline	Foley	Winters-Mendoza	West Adriennestad	Western Sahara	936.222.4746x9924
17	18	F8Aa9d6DfcBeeF8	Greg	Mata	Valentine LLC	Lake Leslie	Mozambique	(701)087-2415
18	19	F160f5Db3EfE973	Clifford	Jacobson	Simon LLC	Harmonview	South Georgia and the South Sandwich Islands	001-151-330-3524x0469

df.head(5)

	Index	Customer Id	First Name	Last Name	Company	City	Country	Phone 1
0	1	DD37Cf93aecA6Dc	Sheryl	Baxter	Rasmussen Group	East Leonard	Chile	229.077.5154
1	2	1Ef7b82A4CAAD10	Preston	Lozano	Vega-Gentry	East Jimmychester	Djibouti	5153435776
2	3	6F94879bDAfE5a6	Roy	Berry	Murillo-Perry	Isabelborough	Antigua and Barbuda	-1199
3	4	5Cef8BFA16c5e3c	Linda	Olsen	Dominguez, Mcmillan and Donovan	Bensonview	Dominican Republic	001-808-617-6467x12895
4	5	053d585Ab6b3159	Joanna	Bender	Martin, Lang and Andrade	West Priscilla	Slovakia (Slovak Republic)	001-234-203-0635x76146

df.isnull()

	Index	Customer Id	First Name	Last Name	Company	City	Country	Phone 1
0	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False
5	False	False	False	False	False	False	False	False
6	False	False	False	False	False	False	False	False
7	False	False	False	False	False	False	False	False
8	False	False	False	False	False	False	False	False
9	False	False	False	False	False	False	False	False
10	False	False	False	False	False	False	False	False
11	False	False	False	False	False	False	False	False
12	False	False	False	False	False	False	False	False
13	False	False	False	False	False	False	False	False
14	False	False	False	False	False	False	False	False
15	False	False	False	False	False	False	False	False
16	False	False	False	False	False	False	False	False
17	False	False	False	False	False	False	False	False
18	False	False	False	False	False	False	False	False

df.describe()

	Index
count	19.000000
mean	10.000000
std	5.627314
min	1.000000
25%	5.500000
50%	10.000000
75%	14.500000
max	19.000000

size = df.size

shape = df.shape

ndim = df.ndim

print("Size = {}\nShape= {}\nndim of DataFrame= {}\n".format(size,shape,ndim))

```
Size = 152
Shape= (19, 8)
ndim of DataFrame= 2
```

dts=df.dtypes

print("Data types of each Column of Dataframe is\n",dts)

```
Data types of each Column of Dataframe is
 Index            int64
Customer Id      object
First Name       object
Last Name        object
Company          object
City             object
Country          object
Phone 1          object
dtype: object
```

```
dummies= pd.get_dummies(df.Company)
merged = pd.concat([df,dummies], axis="columns")
merged.drop(['Company'], axis="columns")
```

	Index	Customer Id	First Name	Last Name	City	Country	Phone 1	Beck-Hendrix	Browning-Simon	Carpenter-Cook	...	Murillo-Perry	Oconnell, Meza and Everett	Rasmussen Group
0	1	DD37Cf93aecA6Dc	Sheryl	Baxter	East Leonard	Chile	229.077.5154	False	False	False	...	False	False	True
1	2	1Ef7b82A4CAAD10	Preston	Lozano	East Jimmychester	Djibouti	5153435776	False	False	False	...	False	False	False
2	3	6F94879bDAfE5a6	Roy	Berry	Isabelborough	Antigua and Barbuda	-1199	False	False	False	...	True	False	False
3	4	5Cef8BFA16c5e3c	Linda	Olsen	Bensonview	Dominican Republic	001-808-617-6467x12895	False	False	False	...	False	False	False
4	5	053d585Ab6b3159	Joanna	Bender	West Priscilla	Slovakia (Slovak Republic)	001-234-203-0635x76146	False	False	False	...	False	False	False
5	6	2d08FB17EE273F4	Aimee	Downs	Chavezborough	Bosnia and Herzegovina	(283)437-3886x88321	False	False	False	...	False	False	False
6	7	EA4d384DfDbBf77	Darren	Peck	Lake Ana	Pitcairn Islands	(496)452-6181x3291	False	False	False	...	False	False	False
7	8	0e04AFde9f225dE	Brett	Mullen	Kimport	Bulgaria	001-583-352-7197x297	False	False	False	...	False	False	False
8	9	C2dE4dEEc489ae0	Sheryl	Meyers	Robersonstad	Cyprus	854-138-4911x5772	False	True	False	...	False	False	False
9	10	8C2811a503C7c5a	Michelle	Gallagher	Elaineberg	Timor-Leste	739.218.2516x459	True	False	False	...	False	False	False
10	11	216E205d6eBb815	Carl	Schroeder	Shannonville	Guernsey	637-854-0256x825	False	False	False	...	False	True	False
11	12	CEDec94deE6d69B	Jenna	Dodson	East Andrea	Vietnam	(041)737-3846	False	False	False	...	False	False	False
12	13	e35426EbDEceaFF	Tracey	Mata	South Joannamouth	Togo	001-949-844-8787	False	False	False	...	False	False	False
13	14	A08A8aF8BE9FaD4	Kristine	Cox	Jodyberg	Sri Lanka	786-284-3358x62152	False	False	True	...	False	False	False
14	15	6fEaA1b7cab7B6C	Faith	Lutz	Burchbury	Singapore	(781)861-7180x8306	False	False	False	...	False	False	False
15	16	8cad0b4CBceaeec	Miranda	Beasley	Desireeshire	Oman	540.085.3135x185	False	False	False	...	False	False	False
16	17	a5DC21AE3a21eaA	Caroline	Foley	West Adriennestad	Western Sahara	936.222.4746x9924	False	False	False	...	False	False	False
17	18	F8Aa9d6DfcBeeF8	Greg	Mata	Lake Leslie	Mozambique	(701)087-2415	False	False	False	...	False	False	False
18	19	F160f5Db3EfE973	Clifford	Jacobson	Harmonview	South Georgia and the South Sandwich Islands	001-151-330-3524x0469	False	False	False	...	False	False	False

```
print(merged)
```

```
    Index   Customer Id First Name  Last Name  \
0       1  DD37Cf93aecA6Dc     Sheryl     Baxter
1       2  1Ef7b82A4CAAD10    Preston     Lozano
2       3  6F94879bDAfE5a6        Roy      Berry
3       4  5Cef8BFA16c5e3c      Linda      Olsen
4       5  053d585Ab6b3159     Joanna     Bender
5       6  2d08FB17EE273F4      Aimee      Downs
6       7  EA4d384DfDbBf77     Darren       Peck
7       8  0e04AFde9f225dE      Brett     Mullen
8       9  C2dE4dEEc489ae0     Sheryl     Meyers
9      10  8C2811a503C7c5a   Michelle  Gallagher
10     11  216E205d6eBb815       Carl  Schroeder
11     12  CEDec94deE6d69B      Jenna     Dodson
12     13  e35426EbDEceaFF     Tracey       Mata
13     14  A08A8aF8BE9FaD4   Kristine        Cox
14     15  6fEaA1b7cab7B6C      Faith       Lutz
15     16  8cad0b4CBceaeec    Miranda    Beasley
16     17  a5DC21AE3a21eaA   Caroline      Foley
```