

```
data= [68, 71, 21, 68, 32, 80, 64, 52, 92, 97, 93, 37, 61, 62, 23, 81, 67, 84, 33, 41, 92, 51, 71, 52, 92,
43, 80, 74, 69, 92, 79, 78, 70, 31, 34, 79, 73, 77, 96, 87, 53, 47, 85, 58, 58, 87, 44, 29, 94, 23, 65, 49,
71, 57, 96, 74, 30, 65, 62, 85, 34, 21, 81, 79, 84, 87, 22, 45, 59, 91, 26, 22, 46, 71, 60, 21, 67, 21, 56,
38, 82, 95, 77, 55, 37,61, 59, 89, 61, 75, 97, 72, 58, 23, 78, 20, 95, 67, 59, 56, 93, 82,35, 78, 94, 67, 25,
95, 90, 80, 78, 73, 91, 52, 59, 96, 46, 94, 99,78, 53, 40, 67, 76, 73, 46, 77, 40, 34, 38, 34, 42, 69, 86,
61, 76,21, 90, 52, 65, 36, 93, 55, 86, 95, 65, 30, 89, 86, 20, 92, 46, 58,75, 43, 57, 53, 42, 43, 37, 26, 90,
58, 31, 73, 71, 63, 70, 72, 78,26, 39, 35, 58, 84, 56, 24, 73, 36, 75, 32, 35, 56, 87, 87, 73, 80,78, 25, 61,
38, 94, 36, 90, 70, 65, 34, 61, 44, 85, 41, 50, 23, 34,20, 87, 84, 30, 21, 84, 65, 85, 88, 73, 54, 47, 77,
41, 35, 71]
```

```
odd = 0
```

```
avg = len(data)
```

```
for i in data:
```

```
    if(i%2!=0):
```

```
        odd = odd + i
```

```
res = odd / avg
```

```
print (res)
```

```
32.39545454545455
```

```
... Program finished with exit code 0
```

```
Press ENTER to exit console.
```

```
num = [68, 71, 21, 68, 32, 80, 64, 52, 92, 97, 93, 37, 61, 62, 23, 81, 67, 84, 33, 41, 92, 51, 71, 52, 92, 43, 80, 74, 69, 92, 79, 78, 70, 31, 34, 79, 73, 77, 96, 87, 53, 47, 85, 58, 58, 87, 44, 29, 94, 23, 65, 49, 71, 57, 96, 74, 30, 65, 62, 85, 34, 21, 81, 79, 84, 87, 22, 45, 59, 91, 26, 22, 46, 71, 60, 21, 67, 21, 56, 38, 82, 95, 77, 55, 37, 61, 59, 89, 61, 75, 97, 72, 58, 23, 78, 20, 95, 67, 59, 56, 93, 82, 35, 78, 94, 67, 25, 95, 90, 80, 78, 73, 91, 52, 59, 96, 46, 94, 99, 78, 53, 40, 67, 76, 73, 46, 77, 40, 34, 38, 34, 42, 69, 86, 61, 76, 21, 90, 52, 65, 36, 93, 55, 86, 95, 65, 30, 89, 86, 20, 92, 46, 58, 75, 43, 57, 53, 42, 43, 37, 26, 90, 58, 31, 73, 71, 63, 70, 72, 78, 26, 39, 35, 58, 84, 56, 24, 73, 36, 75, 32, 35, 56, 87, 87, 73, 80, 78, 25, 61, 38, 94, 36, 90, 70, 65, 34, 61, 44, 85, 41, 50, 23, 34, 20, 87, 84, 30, 21, 84, 65, 85, 88, 73, 54, 47, 77, 41, 35, 71]
```

```
largest_num = num[0]
second_largest_num = num[0]
third_largest_num = num[0]

for i in num :

    if i > largest_num :
        third_largest_num = second_largest_num
        second_largest_num = largest_num
        largest_num = i

    elif i > second_largest_num :
        third_largest_num = second_largest_num
        second_largest_num = i

    elif i > third_largest_num :
        third_largest_num = i

print("Third largest number of the list is {}".format(third_largest_num))
```

Third largest number of the list is 97

```
list1 = [68, 71, 21, 68, 32, 80, 64, 52, 92, 97, 93, 37, 61, 62, 23, 81, 67, 84, 33, 41, 92, 51, 71, 52, 92, 43, 80, 74, 69, 92, 79, 78, 70, 31, 34, 79, 73, 77, 96, 87, 53, 47, 85, 58, 58, 87, 44, 29, 94, 23, 65, 49, 71, 57, 96, 74, 30, 65, 62, 85, 34, 21, 81, 79, 84, 87, 22, 45, 59, 91, 26, 22, 46, 71, 60, 21, 67, 21, 56, 38, 82, 95, 77, 55, 37, 61, 59, 89, 61, 75, 97, 72, 58, 23, 78, 20, 95, 67, 59, 56, 93, 82, 35, 78, 94, 67, 25, 95, 90, 80, 78, 73, 91, 52, 59, 96, 46, 94, 99, 78, 53, 40, 67, 76, 73, 46, 77, 40, 34, 38, 34, 42, 69, 86, 61, 76, 21, 90, 52, 65, 36, 93, 55, 86, 95, 65, 30, 89, 86, 20, 92, 46, 58, 75, 43, 57, 53, 42, 43, 37, 26, 90, 58, 31, 73, 71, 63, 70, 72, 78, 26, 39, 35, 58, 84, 56, 24, 73, 36, 75, 32, 35, 56, 87, 87, 73, 80, 78, 25, 61, 38, 94, 36, 90, 70, 65, 34, 61, 44, 85, 41, 50, 23, 34, 20, 87, 84, 30, 21, 84, 65, 85, 88, 73, 54, 47, 77, 41, 35, 71]
```

```
even_count, odd_count = 0, 0
```

```
for num in list1:
```

```
    if num % 2 == 0:
        even_count += 1
```

```
    else:
        odd_count += 1
```

```
print("Even numbers in the list: ", even_count)
```

```
print("Odd numbers in the list: ", odd_count)
```

```
Even numbers in the list: 105
```

```
Odd numbers in the list: 115
```

In [1]:

```
import pandas as pd
import datetime as dt
```

In [2]:

```
df = pd.read_csv('C:\\Users\\HP\\Documents\\Python Scripts\\online_retail_II.csv')
df.head()
```

Out[2]:

	Invoice	StockCode	Description	Quantity	InvoiceDate	Price	Customer ID	Country
0	489434	85048	15CM CHRISTMAS GLASS BALL 20 LIGHTS	12	2009-12-01 07:45:00	6.95	13085.0	United Kingdom
1	489434	79323P	PINK CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
2	489434	79323W	WHITE CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
3	489434	22041	RECORD FRAME 7" SINGLE SIZE	48	2009-12-01 07:45:00	2.10	13085.0	United Kingdom
4	489434	21232	STRAWBERRY CERAMIC TRINKET BOX	24	2009-12-01 07:45:00	1.25	13085.0	United Kingdom

In [3]:

```
df.value_counts()
```

Out[3]:

Invoice	StockCode	Description	Quantity	InvoiceDate	Price
Customer	ID	Country			
555524	22698	PINK REGENCY TEACUP AND SAUCER	1	2011-06-05 11:37:00	2.95
16923.0	United Kingdom	20			
	22697	GREEN REGENCY TEACUP AND SAUCER	1	2011-06-05 11:37:00	2.95
16923.0	United Kingdom	12			
537224	70007	HI TEC ALPINE HAND WARMER	1	2010-12-05 16:24:00	1.65
13174.0	United Kingdom	10			
572861	22775	PURPLE DRAWERKNOB ACRYLIC EDWARDIAN	12	2011-10-26 12:46:00	1.25
14102.0	United Kingdom	8			
536412	21448	12 DAISY PEGS IN WOOD BOX	2	2010-12-01 11:49:00	1.65
17920.0	United Kingdom	6			
..					
523007	22308	TEA COSY BLUE STRIPE	1	2010-09-19 16:27:00	2.55
15870.0	United Kingdom	1			
	22329	ROUND CONTAINER SET OF 5 RETROSPOT	1	2010-09-19 16:27:00	1.65
15870.0	United Kingdom	1			
	22426	ENAMEL WASH BOWL CREAM	1	2010-09-19 16:27:00	3.75
15870.0	United Kingdom	1			
	22630	DOLLY GIRL LUNCH BOX	1	2010-09-19 16:27:00	1.95
15870.0	United Kingdom	1			
C581569	84978	HANGING HEART JAR T-LIGHT HOLDER	-1	2011-12-09 11:58:00	1.25
17315.0	United Kingdom	1			
Length: 797885, dtype: int64					

In [4]:

```
df.describe()
```

Out[4]:

	Quantity	Price	Customer ID
count	1.067371e+06	1.067371e+06	824364.000000
mean	9.938898e+00	4.649388e+00	15324.638504
std	1.727058e+02	1.235531e+02	1697.464450
min	-8.099500e+04	-5.359436e+04	12346.000000
25%	1.000000e+00	1.250000e+00	13975.000000
50%	3.000000e+00	2.100000e+00	15255.000000
75%	1.000000e+01	4.150000e+00	16797.000000
max	8.099500e+04	3.897000e+04	18287.000000

In [5]:

```
df.isnull().sum()
```

Out[5]:

Invoice	0
StockCode	0
Description	4382
Quantity	0
InvoiceDate	0
Price	0
Customer ID	243007
Country	0
dtype: int64	

In [6]:

```
df.shape
```

Out[6]:

(1067371, 8)

In [7]:

```
df['Description'].fillna(method='ffill', inplace=True)
df
```

Out[7]:

	Invoice	StockCode	Description	Quantity	InvoiceDate	Price	Customer ID	Country
0	489434	85048	15CM CHRISTMAS GLASS BALL 20 LIGHTS	12	2009-12-01 07:45:00	6.95	13085.0	United Kingdom
1	489434	79323P	PINK CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
2	489434	79323W	WHITE CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom

3	489434	22041	RECORD FRAME 7" SINGLE SIZE	48	2009-12-01 07:45:00	2.10	13085.0	United Kingdom
4	489434	21232	STRAWBERRY CERAMIC TRINKET BOX	24	2009-12-01 07:45:00	1.25	13085.0	United Kingdom
...	...	...	...	...	...	...	...	...
1067366	581587	22899	CHILDREN'S APRON DOLLY GIRL	6	2011-12-09 12:50:00	2.10	12680.0	France
1067367	581587	23254	CHILDRENS CUTLERY DOLLY GIRL	4	2011-12-09 12:50:00	4.15	12680.0	France
1067368	581587	23255	CHILDRENS CUTLERY CIRCUS PARADE	4	2011-12-09 12:50:00	4.15	12680.0	France
1067369	581587	22138	BAKING SET 9 PIECE RETROSPOT	3	2011-12-09 12:50:00	4.95	12680.0	France
1067370	581587	POST	POSTAGE	1	2011-12-09 12:50:00	18.00	12680.0	France

1067371 rows × 8 columns

In [8]:

```
df['Customer ID'].fillna(df['Customer ID'].mean(), inplace=True)
df
```

Out[8]:

	Invoice	StockCode	Description	Quantity	InvoiceDate	Price	Customer ID	Country
0	489434	85048	15CM CHRISTMAS GLASS BALL 20 LIGHTS	12	2009-12-01 07:45:00	6.95	13085.0	United Kingdom
1	489434	79323P	PINK CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
2	489434	79323W	WHITE CHERRY LIGHTS	12	2009-12-01 07:45:00	6.75	13085.0	United Kingdom
3	489434	22041	RECORD FRAME 7" SINGLE SIZE	48	2009-12-01 07:45:00	2.10	13085.0	United Kingdom
4	489434	21232	STRAWBERRY CERAMIC TRINKET BOX	24	2009-12-01 07:45:00	1.25	13085.0	United Kingdom
...	...	...	...	...	...	...	...	...
1067366	581587	22899	CHILDREN'S APRON DOLLY GIRL	6	2011-12-09 12:50:00	2.10	12680.0	France
1067367	581587	23254	CHILDRENS CUTLERY DOLLY GIRL	4	2011-12-09 12:50:00	4.15	12680.0	France
1067368	581587	23255	CHILDRENS CUTLERY CIRCUS PARADE	4	2011-12-09 12:50:00	4.15	12680.0	France
1067369	581587	22138	BAKING SET 9 PIECE RETROSPOT	3	2011-12-09 12:50:00	4.95	12680.0	France
1067370					2011-12-09			

581587	POST	POSTAGE	1	12:50:00	18.00	12680.0	France
--------	------	---------	---	----------	-------	---------	--------

1067371 rows × 8 columns

In [9]:

```
df.isnull().sum()
```

Out[9]:

```
Invoice      0
StockCode    0
Description  0
Quantity     0
InvoiceDate  0
Price        0
Customer ID  0
Country      0
dtype: int64
```

In []:

In []:

In []: