```
import numpy as np
import pandas as pd

train = pd.read_csv('hotel_bookings.csv', nrows=10000)

train.head()
```

```
          hotel  is_canceled  lead_time  arrival_date_year
arrival_date_month  \
0  Resort Hotel            0        342               2015
July
1  Resort Hotel            0        737               2015
July
2  Resort Hotel            0          7               2015
July
3  Resort Hotel            0         13               2015
July
4  Resort Hotel            0         14               2015
July

   arrival_date_week_number  arrival_date_day_of_month  \
0                        27                          1
1                        27                          1
2                        27                          1
3                        27                          1
4                        27                          1

   stays_in_weekend_nights  stays_in_week_nights  adults  ...
deposit_type  \
0                        0                     0       2  ...    No
Deposit
1                        0                     0       2  ...    No
Deposit
2                        0                     1       1  ...    No
Deposit
3                        0                     1       1  ...    No
Deposit
4                        0                     2       2  ...    No
Deposit

   agent company days_in_waiting_list customer_type   adr  \
0    NaN     NaN                    0     Transient   0.0
1    NaN     NaN                    0     Transient   0.0
2    NaN     NaN                    0     Transient  75.0
3  304.0     NaN                    0     Transient  75.0
4  240.0     NaN                    0     Transient  98.0

   required_car_parking_spaces  total_of_special_requests
reservation_status  \
0                            0                          0
```

```
Check-Out
1                               0                               0
Check-Out
2                               0                               0
Check-Out
3                               0                               0
Check-Out
4                               0                               1
Check-Out

  reservation_status_date
0              01-07-2015
1              01-07-2015
2              02-07-2015
3              02-07-2015
4              03-07-2015

[5 rows x 32 columns]
```

```
train.columns
```

```
Index(['hotel', 'is_canceled', 'lead_time', 'arrival_date_year',
       'arrival_date_month', 'arrival_date_week_number',
       'arrival_date_day_of_month', 'stays_in_weekend_nights',
       'stays_in_week_nights', 'adults', 'children', 'babies', 'meal',
       'country', 'market_segment', 'distribution_channel',
       'is_repeated_guest', 'previous_cancellations',
       'previous_bookings_not_canceled', 'reserved_room_type',
       'assigned_room_type', 'booking_changes', 'deposit_type',
'agent',
       'company', 'days_in_waiting_list', 'customer_type', 'adr',
       'required_car_parking_spaces', 'total_of_special_requests',
       'reservation_status', 'reservation_status_date'],
      dtype='object')
```

```
train.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 10000 entries, 0 to 9999
Data columns (total 32 columns):
 #   Column                          Non-Null Count  Dtype
---  ------                          --------------  -----
 0   hotel                           10000 non-null  object
 1   is_canceled                     10000 non-null  int64
 2   lead_time                       10000 non-null  int64
 3   arrival_date_year               10000 non-null  int64
 4   arrival_date_month              10000 non-null  object
 5   arrival_date_week_number        10000 non-null  int64
 6   arrival_date_day_of_month       10000 non-null  int64
```

```
 7   stays_in_weekend_nights         10000 non-null  int64
 8   stays_in_week_nights            10000 non-null  int64
 9   adults                          10000 non-null  int64
 10  children                        10000 non-null  int64
 11  babies                          10000 non-null  int64
 12  meal                            10000 non-null  object
 13  country                         9992 non-null   object
 14  market_segment                  10000 non-null  object
 15  distribution_channel            10000 non-null  object
 16  is_repeated_guest               10000 non-null  int64
 17  previous_cancellations          10000 non-null  int64
 18  previous_bookings_not_canceled  10000 non-null  int64
 19  reserved_room_type              10000 non-null  object
 20  assigned_room_type              10000 non-null  object
 21  booking_changes                 10000 non-null  int64
 22  deposit_type                    10000 non-null  object
 23  agent                           8471 non-null   float64
 24  company                         555 non-null    float64
 25  days_in_waiting_list            10000 non-null  int64
 26  customer_type                   10000 non-null  object
 27  adr                             10000 non-null  float64
 28  required_car_parking_spaces     10000 non-null  int64
 29  total_of_special_requests       10000 non-null  int64
 30  reservation_status              10000 non-null  object
 31  reservation_status_date         10000 non-null  object
dtypes: float64(3), int64(17), object(12)
memory usage: 2.4+ MB
```

```
total = train.isnull().sum().sort_values(ascending=False)
train.replace("NULL",np.nan,inplace=True)
```

```
train.head(500)
```

```
            hotel  is_canceled  lead_time  arrival_date_year  \
0    Resort Hotel            0        342               2015
1    Resort Hotel            0        737               2015
2    Resort Hotel            0          7               2015
3    Resort Hotel            0         13               2015
4    Resort Hotel            0         14               2015
..            ...          ...        ...                ...
495  Resort Hotel            0         92               2015
496  Resort Hotel            0         91               2015
497  Resort Hotel            0         38               2015
498  Resort Hotel            0          6               2015
499  Resort Hotel            0         38               2015

    arrival_date_month  arrival_date_week_number
arrival_date_day_of_month  \
0                 July                        27
1
```

```
1                  July                         27
1
2                  July                         27
1
3                  July                         27
1
4                  July                         27
1
..                  ...                        ...
...
495                July                         29
17
496                July                         29
17
497                July                         29
17
498                July                         29
17
499                July                         29
17

     stays_in_weekend_nights  stays_in_week_nights  adults  ...
deposit_type  \
0                          0                     0       2  ...    No
Deposit
1                          0                     0       2  ...    No
Deposit
2                          0                     1       1  ...    No
Deposit
3                          0                     1       1  ...    No
Deposit
4                          0                     2       2  ...    No
Deposit
..                       ...                   ...     ...  ...
...
495                        1                     2       2  ...    No
Deposit
496                        1                     2       2  ...    No
Deposit
497                        1                     2       2  ...    No
Deposit
498                        1                     2       2  ...    No
Deposit
499                        1                     2       2  ...    No
Deposit

     agent company days_in_waiting_list customer_type     adr  \
0      NaN     NaN                    0     Transient    0.00
1      NaN     NaN                    0     Transient    0.00
```

```
2      NaN     NaN                    0     Transient   75.00
3    304.0     NaN                    0     Transient   75.00
4    240.0     NaN                    0     Transient   98.00
..     ...     ...                  ...           ...     ...
495  240.0     NaN                    0     Transient  103.50
496  240.0     NaN                    0     Transient  118.50
497  240.0     NaN                    0     Transient  192.00
498  142.0     NaN                    0      Contract  128.27
499  240.0     NaN                    0     Transient  135.00

     required_car_parking_spaces  total_of_special_requests  \
0                              0                          0
1                              0                          0
2                              0                          0
3                              0                          0
4                              0                          1
..                           ...                        ...
495                            1                          3
496                            0                          3
497                            0                          1
498                            0                          0
499                            0                          0

     reservation_status reservation_status_date
0             Check-Out              01-07-2015
1             Check-Out              01-07-2015
2             Check-Out              02-07-2015
3             Check-Out              02-07-2015
4             Check-Out              03-07-2015
..                  ...                     ...
495           Check-Out              20-07-2015
496           Check-Out              20-07-2015
497           Check-Out              20-07-2015
498           Check-Out              20-07-2015
499           Check-Out              20-07-2015

[500 rows x 32 columns]

train.isnull()

      hotel  is_canceled  lead_time  arrival_date_year
arrival_date_month  \
0     False        False      False              False
False
1     False        False      False              False
False
2     False        False      False              False
False
3     False        False      False              False
False
```

```
4     False        False      False               False
False
...     ...          ...        ...                 ...
...
9995  False        False      False               False
False
9996  False        False      False               False
False
9997  False        False      False               False
False
9998  False        False      False               False
False
9999  False        False      False               False
False

      arrival_date_week_number  arrival_date_day_of_month  \
0                        False                      False
1                        False                      False
2                        False                      False
3                        False                      False
4                        False                      False
...                        ...                        ...
9995                     False                      False
9996                     False                      False
9997                     False                      False
9998                     False                      False
9999                     False                      False

      stays_in_weekend_nights  stays_in_week_nights  adults  ...  \
0                       False                False   False  ...
1                       False                False   False  ...
2                       False                False   False  ...
3                       False                False   False  ...
4                       False                False   False  ...
...                       ...                  ...     ...  ...
9995                    False                False   False  ...
9996                    False                False   False  ...
9997                    False                False   False  ...
9998                    False                False   False  ...
9999                    False                False   False  ...

      deposit_type  agent  company  days_in_waiting_list
customer_type  \
0            False   True     True                 False
False
1            False   True     True                 False
False
2            False   True     True                 False
False
3            False  False     True                 False
```

```
False
4            False  False     True                False
False
...            ...    ...      ...                  ...             ..
.
9995         False  False     True                False
False
9996         False  False     True                False
False
9997         False   True     True                False
False
9998         False  False     True                False
False
9999         False  False     True                False
False

        adr  required_car_parking_spaces  total_of_special_requests  \
0     False                         False                      False
1     False                         False                      False
2     False                         False                      False
3     False                         False                      False
4     False                         False                      False
...     ...                           ...                        ...
9995  False                         False                      False
9996  False                         False                      False
9997  False                         False                      False
9998  False                         False                      False
9999  False                         False                      False

      reservation_status  reservation_status_date
0                  False                    False
1                  False                    False
2                  False                    False
3                  False                    False
4                  False                    False
...                  ...                      ...
9995               False                    False
9996               False                    False
9997               False                    False
9998               False                    False
9999               False                    False

[10000 rows x 32 columns]

train.notnull()

      hotel  is_canceled  lead_time  arrival_date_year
arrival_date_month  \
0      True         True       True               True
True
```

```
1      True         True       True                True
True
2      True         True       True                True
True
3      True         True       True                True
True
4      True         True       True                True
True
...     ...          ...        ...                 ...
...
9995   True         True       True                True
True
9996   True         True       True                True
True
9997   True         True       True                True
True
9998   True         True       True                True
True
9999   True         True       True                True
True

      arrival_date_week_number  arrival_date_day_of_month  \
0                         True                       True
1                         True                       True
2                         True                       True
3                         True                       True
4                         True                       True
...                        ...                        ...
9995                      True                       True
9996                      True                       True
9997                      True                       True
9998                      True                       True
9999                      True                       True

      stays_in_weekend_nights  stays_in_week_nights  adults  ...  \
0                        True                  True    True  ...
1                        True                  True    True  ...
2                        True                  True    True  ...
3                        True                  True    True  ...
4                        True                  True    True  ...
...                       ...                   ...     ...  ...
9995                     True                  True    True  ...
9996                     True                  True    True  ...
9997                     True                  True    True  ...
9998                     True                  True    True  ...
9999                     True                  True    True  ...

      deposit_type  agent  company  days_in_waiting_list
customer_type   adr  \
0             True  False    False                  True
```

```
True  True
1             True  False    False                   True
True  True
2             True  False    False                   True
True  True
3             True   True    False                   True
True  True
4             True   True    False                   True
True  True
...            ...    ...      ...                    ...             ..
.   ...
9995          True   True    False                   True
True  True
9996          True   True    False                   True
True  True
9997          True  False    False                   True
True  True
9998          True   True    False                   True
True  True
9999          True   True    False                   True
True  True

      required_car_parking_spaces  total_of_special_requests  \
0                            True                       True
1                            True                       True
2                            True                       True
3                            True                       True
4                            True                       True
...                           ...                        ...
9995                         True                       True
9996                         True                       True
9997                         True                       True
9998                         True                       True
9999                         True                       True

      reservation_status  reservation_status_date
0                   True                     True
1                   True                     True
2                   True                     True
3                   True                     True
4                   True                     True
...                  ...                      ...
9995                True                     True
9996                True                     True
9997                True                     True
9998                True                     True
9999                True                     True

[10000 rows x 32 columns]
```

```
miss=train.isnull()

avg=train["agent"].astype("float").mean(axis=0)
avg1=train["company"].astype("float").mean(axis=0)
avg1

234.38558558558557

train['agent'].replace(np.nan,avg,inplace=True)
train['company'].replace(np.nan,avg1,inplace=True)

train.head(100)
```

	hotel	is_canceled	lead_time	arrival_date_year	arrival_date_month	arrival_date_week_number	arrival_date_day_of_month
0	Resort Hotel	0	342	2015	July	27	1
1	Resort Hotel	0	737	2015	July	27	1
2	Resort Hotel	0	7	2015	July	27	1
3	Resort Hotel	0	13	2015	July	27	1
4	Resort Hotel	0	14	2015	July	27	1
..	...	...	...	...	...	...	...
95	Resort Hotel	1	72	2015	July	27	3
96	Resort Hotel	1	63	2015	July	27	3
97	Resort Hotel	0	63	2015	July	27	3
98	Resort Hotel	0	101	2015	July	27	3
99	Resort Hotel	0	102	2015	July	27	3

```
    stays_in_weekend_nights  stays_in_week_nights  adults  ...
deposit_type  \
0                         0                     0       2  ...    No
Deposit
1                         0                     0       2  ...    No
Deposit
2                         0                     1       1  ...    No
Deposit
3                         0                     1       1  ...    No
Deposit
4                         0                     2       2  ...    No
Deposit
..                      ...                   ...     ...  ...
...
95                        0                     2       2  ...    No
Deposit
96                        2                     5       2  ...    No
Deposit
97                        2                     5       3  ...    No
Deposit
98                        2                     5       2  ...    No
Deposit
99                        2                     5       2  ...    No
Deposit

          agent     company days_in_waiting_list customer_type     adr
\
0   214.417896  234.385586                    0     Transient    0.00

1   214.417896  234.385586                    0     Transient    0.00

2   214.417896  234.385586                    0     Transient   75.00

3   304.000000  234.385586                    0     Transient   75.00

4   240.000000  234.385586                    0     Transient   98.00

..         ...         ...                  ...           ...     ...

95  240.000000  234.385586                    0     Transient   73.80

96  242.000000  234.385586                    0     Transient  117.00

97  105.000000  234.385586                    0     Transient  196.54

98  240.000000  234.385586                    0     Transient   99.30

99  250.000000  234.385586                    0     Transient   90.95
```

```
    required_car_parking_spaces  total_of_special_requests  \
0                             0                          0
1                             0                          0
2                             0                          0
3                             0                          0
4                             0                          1
..                          ...                        ...
95                            0                          1
96                            0                          1
97                            0                          1
98                            1                          2
99                            0                          0

    reservation_status reservation_status_date
0            Check-Out              01-07-2015
1            Check-Out              01-07-2015
2            Check-Out              02-07-2015
3            Check-Out              02-07-2015
4            Check-Out              03-07-2015
..                 ...                     ...
95            Canceled              29-06-2015
96            Canceled              13-05-2015
97           Check-Out              10-07-2015
98           Check-Out              10-07-2015
99           Check-Out              10-07-2015

[100 rows x 32 columns]
```

```
#Data Integration

customers_data = {
    'CustomerID': [101, 102, 103, 104, 105],
    'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Eve'],
    'Age': [25, 32, 50, 45, 28],
    'Email': ['alice@example.com', 'bob@example.com',
'charlie@example.com', 'david@example.com', 'eve@example.com'],
    'Gender': ['Female', 'Male', 'Male', 'Male', 'Female'],
    'Income': [50000, 75000, 60000, np.nan, 80000]
}

customers_df = pd.DataFrame(customers_data)

# Create the product inventory dataset
products_data = {
    'ProductID': [501, 502, 503, 504, 505],
    'Product_Name': ['Laptop', 'Phone', 'Tablet', 'Keyboard',
'Mouse'],
    'Category': ['Electronics', 'Electronics', 'Electronics',
'Accessories', 'Accessories'],
    'Price': [1200, 800, 400, 50, 20],
```

```
    'Stock_Quantity': [15, 20, 10, 100, 50]
}

products_df = pd.DataFrame(products_data)

sales_data = {
    'SaleID': [1, 2, 3, 4, 5],
    'CustomerID': [101, 102, 103, 110, 105],
    'ProductID': [502, 504, 503, 502, 505],
    'Quantity': [2, 1, 3, 2, 5]
}

sales_df = pd.DataFrame(sales_data)

final_df=sales_df.merge(customers_df,on='CustomerID')
final_df=final_df.merge(products_df,on='ProductID')

final_df
```

```
   SaleID  CustomerID  ProductID  Quantity     Name  Age
Email  \
0       1         101        502         2    Alice   25
alice@example.com
1       2         102        504         1      Bob   32
bob@example.com
2       3         103        503         3  Charlie   50
charlie@example.com
3       5         105        505         5      Eve   28
eve@example.com

   Gender   Income Product_Name     Category  Price  Stock_Quantity
0  Female  50000.0        Phone  Electronics    800              20
1    Male  75000.0     Keyboard  Accessories     50             100
2    Male  60000.0       Tablet  Electronics    400              10
3  Female  80000.0        Mouse  Accessories     20              50
```

```
final_df['Sales']=final_df['Price']*final_df['Quantity']

final_df
```

```
   SaleID  CustomerID  ProductID  Quantity     Name  Age
Email  \
0       1         101        502         2    Alice   25
alice@example.com
1       2         102        504         1      Bob   32
bob@example.com
2       3         103        503         3  Charlie   50
charlie@example.com
3       5         105        505         5      Eve   28
eve@example.com
```

```
   Gender   Income Product_Name     Category  Price  Stock_Quantity
Sales
0  Female  50000.0        Phone  Electronics    800              20
1600
1    Male  75000.0     Keyboard  Accessories     50             100
50
2    Male  60000.0       Tablet  Electronics    400              10
1200
3  Female  80000.0        Mouse  Accessories     20              50
100
```

```
#Data Transformation
```

```
final_df.columns
```

```
Index(['SaleID', 'CustomerID', 'ProductID', 'Quantity', 'Name', 'Age',
'Email',
       'Gender', 'Income', 'Product_Name', 'Category', 'Price',
       'Stock_Quantity', 'Sales'],
      dtype='object')
```

```
final_df=final_df.groupby(['CustomerID', 'ProductID','Name', 'Age',
'Email',
       'Gender',
'Income','Category']).agg({'Quantity':'sum','Sales':'sum','Stock_Quant
ity':'sum'}).reset_index()
```

```
final_df
```

```
   CustomerID  ProductID     Name  Age                Email  Gender
Income  \
0         101        502    Alice   25    alice@example.com  Female
50000.0
1         102        504      Bob   32      bob@example.com    Male
75000.0
2         103        503  Charlie   50  charlie@example.com    Male
60000.0
3         105        505      Eve   28      eve@example.com  Female
80000.0

      Category  Quantity  Sales  Stock_Quantity
0  Electronics         2   1600              20
1  Accessories         1     50             100
2  Electronics         3   1200              10
3  Accessories         5    100              50
```

```
#Data Discretization
```

```
df=pd.read_csv('IBRD.csv', nrows=60)
df.head(60)
```

	Category Code	Category	Subcategory	Fiscal Year	\
0	a	Assets	Due from Banks	2010	
1	a	Assets	Due from Banks	2009	
2	a	Assets	Due from Banks	2010	
3	a	Assets	Due from Banks	2009	
4	a	Assets	Investments	2010	
5	a	Assets	Investments	2009	
6	a	Assets	Securities	2010	
7	a	Assets	Securities	2009	
8	a	Assets	Nonnegotiable	2010	
9	a	Assets	Nonnegotiable	2009	
10	a	Assets	Derivative Assets	2010	
11	a	Assets	Derivative Assets	2009	
12	a	Assets	Derivative Assets	2010	
13	a	Assets	Derivative Assets	2009	
14	a	Assets	Derivative Assets	2010	
15	a	Assets	Derivative Assets	2009	
16	a	Assets	Derivative Assets	2010	
17	a	Assets	Derivative Assets	2009	
18	a	Assets	Receivables	2010	
19	a	Assets	Receivables	2009	
20	a	Assets	Other Receivables	2010	
21	a	Assets	Other Receivables	2009	
22	a	Assets	Other Receivables	2010	
23	a	Assets	Other Receivables	2009	
24	a	Assets	Loans Outstanding	2010	
25	a	Assets	Loans Outstanding	2009	
26	a	Assets	Other Assets	2010	
27	a	Assets	Other Assets	2009	
28	a	Assets	Other Assets	2010	
29	a	Assets	Other Assets	2009	
30	a	Assets	Other Assets	2010	
31	a	Assets	Other Assets	2009	
32	l	Liabilities	Borrowings	2010	
33	l	Liabilities	Borrowings	2009	
34	l	Liabilities	Sold or Lent	2010	
35	l	Liabilities	Sold or Lent	2009	
36	l	Liabilities	Derivative Liabilities	2010	
37	l	Liabilities	Derivative Liabilities	2009	
38	l	Liabilities	Derivative Liabilities	2010	
39	l	Liabilities	Derivative Liabilities	2009	
40	l	Liabilities	Derivative Liabilities	2010	
41	l	Liabilities	Derivative Liabilities	2009	
42	l	Liabilities	Derivative Liabilities	2010	
43	l	Liabilities	Derivative Liabilities	2009	
44	l	Liabilities	Other	2010	
45	l	Liabilities	Other Liabilities	2010	
46	l	Liabilities	Other Liabilities	2009	
47	l	Liabilities	Other Liabilities	2010	
48	l	Liabilities	Other Liabilities	2009	

49		l	Liabilities	Other Liabilities	2010
50		l	Liabilities	Other Liabilities	2009
51		l	Liabilities	Other Liabilities	2010
52		l	Liabilities	Other Liabilities	2009
53		e	Equity	Capital Stock	2010
54		e	Equity	Capital Stock	2009
55		e	Equity	Deferred Amounts	2010
56		e	Equity	Deferred Amounts	2009
57		e	Equity	Retained Earnings	2010
58		e	Equity	Retained Earnings	2009

	Amount (US$, Millions)
0	1581
1	2380
2	222
3	664
4	36012
5	41012
6	289
7	33
8	1123
9	1202
10	13249
11	18467
12	17633
13	19559
14	87457
15	82793
16	3287
17	2246
18	171
19	176
20	47
21	95
22	764
23	889
24	118104
25	103657
26	0
27	325
28	635
29	625
30	2436
31	1297
32	128577
33	110040
34	998
35	2323
36	13360
37	18923

```
38                    17623
39                    19551
40                    78655
41                    76321
42                      780
43                      847
44                        8
45                      307
46                     2457
47                     1190
48                     1495
49                     1164
50                      662
51                     2793
52                     2707
53                    11492
54                    11491
55                      313
56                      359
57                    28793
58                    29870
```

```
pd.qcut(df["Amount (US$, Millions)"],q=4).head()
```

```
0         (648.5, 2246.0]
1      (2246.0, 18695.0]
2        (-0.001, 648.5]
3         (648.5, 2246.0]
4    (18695.0, 128577.0]
Name: Amount (US$, Millions), dtype: category
Categories (4, interval[float64, right]): [(-0.001, 648.5] < (648.5,
2246.0] < (2246.0, 18695.0] <
                                            (18695.0, 128577.0]]
```

```
df["Amount (US$, Millions)"]=pd.cut(df["Amount (US$,
Millions)"],bins=[0,648.5,2246,18695,128577],labels=["low","Medium","H
igh","Very High"])
print(df.head(60))
```

```
   Category Code     Category             Subcategory  Fiscal Year  \
0              a       Assets          Due from Banks         2010
1              a       Assets          Due from Banks         2009
2              a       Assets          Due from Banks         2010
3              a       Assets          Due from Banks         2009
4              a       Assets             Investments         2010
5              a       Assets             Investments         2009
6              a       Assets              Securities         2010
7              a       Assets              Securities         2009
8              a       Assets           Nonnegotiable         2010
9              a       Assets           Nonnegotiable         2009
```

10	a	Assets	Derivative Assets	2010
11	a	Assets	Derivative Assets	2009
12	a	Assets	Derivative Assets	2010
13	a	Assets	Derivative Assets	2009
14	a	Assets	Derivative Assets	2010
15	a	Assets	Derivative Assets	2009
16	a	Assets	Derivative Assets	2010
17	a	Assets	Derivative Assets	2009
18	a	Assets	Receivables	2010
19	a	Assets	Receivables	2009
20	a	Assets	Other Receivables	2010
21	a	Assets	Other Receivables	2009
22	a	Assets	Other Receivables	2010
23	a	Assets	Other Receivables	2009
24	a	Assets	Loans Outstanding	2010
25	a	Assets	Loans Outstanding	2009
26	a	Assets	Other Assets	2010
27	a	Assets	Other Assets	2009
28	a	Assets	Other Assets	2010
29	a	Assets	Other Assets	2009
30	a	Assets	Other Assets	2010
31	a	Assets	Other Assets	2009
32	l	Liabilities	Borrowings	2010
33	l	Liabilities	Borrowings	2009
34	l	Liabilities	Sold or Lent	2010
35	l	Liabilities	Sold or Lent	2009
36	l	Liabilities	Derivative Liabilities	2010
37	l	Liabilities	Derivative Liabilities	2009
38	l	Liabilities	Derivative Liabilities	2010
39	l	Liabilities	Derivative Liabilities	2009
40	l	Liabilities	Derivative Liabilities	2010
41	l	Liabilities	Derivative Liabilities	2009
42	l	Liabilities	Derivative Liabilities	2010
43	l	Liabilities	Derivative Liabilities	2009
44	l	Liabilities	Other	2010
45	l	Liabilities	Other Liabilities	2010
46	l	Liabilities	Other Liabilities	2009
47	l	Liabilities	Other Liabilities	2010
48	l	Liabilities	Other Liabilities	2009
49	l	Liabilities	Other Liabilities	2010
50	l	Liabilities	Other Liabilities	2009
51	l	Liabilities	Other Liabilities	2010
52	l	Liabilities	Other Liabilities	2009
53	e	Equity	Capital Stock	2010
54	e	Equity	Capital Stock	2009
55	e	Equity	Deferred Amounts	2010
56	e	Equity	Deferred Amounts	2009
57	e	Equity	Retained Earnings	2010
58	e	Equity	Retained Earnings	2009

```
   Amount (US$, Millions)
0                  Medium
1                    High
2                     low
3                  Medium
4               Very High
5               Very High
6                     low
7                     low
8                  Medium
9                  Medium
10                   High
11                   High
12                   High
13              Very High
14              Very High
15              Very High
16                   High
17                 Medium
18                    low
19                    low
20                    low
21                    low
22                 Medium
23                 Medium
24              Very High
25              Very High
26                    NaN
27                    low
28                    low
29                    low
30                   High
31                 Medium
32              Very High
33              Very High
34                 Medium
35                   High
36                   High
37              Very High
38                   High
39              Very High
40              Very High
41              Very High
42                 Medium
43                 Medium
44                    low
45                    low
46                   High
```

```
47                  Medium
48                  Medium
49                  Medium
50                  Medium
51                    High
52                    High
53                    High
54                    High
55                     low
56                     low
57               Very High
58               Very High
```