INTRO TO DATAFRAME and it's operations

(1) Importing library and creating dataframe with assigned column names

```
import pandas as pd
df = pd.DataFrame([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]],columns = ['A','B','C'])
```

(2) Printing dataframe

```
df
```

	A	B	C
0	1	2	3
1	4	5	6
2	7	8	9
3	10	11	12
4	13	14	15

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(3) Printing dataframe using head and tail

```
df.head()
```

	A	B	C
0	1	2	3
1	4	5	6
2	7	8	9
3	10	11	12
4	13	14	15

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```
df.head(3)
```

	A	B	C
0	1	2	3
1	4	5	6
2	7	8	9

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```
df.tail(2)
```

	A	B	C
3	10	11	12
4	13	14	15

(4) Printing columns and indexs

```
df.columns
```

```
Index(['A', 'B', 'C'], dtype='object')
```

```
df.index
```

```
RangeIndex(start=0, stop=5, step=1)
```

```
df.index.tolist()
```

```
[0, 1, 2, 3, 4]
```

(5) We can also name our indexes non-numerically

```
df = pd.DataFrame([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]],columns = ['A','B','C'], index= ['a','b','c','d','e'])
```

```
df
```

	A	B	C
a	1	2	3
b	4	5	6
c	7	8	9
d	10	11	12
e	13	14	15

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```
df.index
```

```
Index(['a', 'b', 'c', 'd', 'e'], dtype='object')
```

```
df.index.tolist()
```

```
['a', 'b', 'c', 'd', 'e']
```

(6) Here are some more operations to be done on data frame

1. info
2. describe
3. nunique
4. shape
5. size

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Index: 5 entries, a to e
Data columns (total 3 columns):
 #   Column  Non-Null Count  Dtype
---  ------  --------------  -----
 0   A       5 non-null      int64
 1   B       5 non-null      int64
 2   C       5 non-null      int64
dtypes: int64(3)
memory usage: 332.0+ bytes
```

```
df.describe()
```

	A	B	C
count	5.000000	5.000000	5.000000
mean	7.000000	8.000000	9.000000
std	4.743416	4.743416	4.743416
min	1.000000	2.000000	3.000000
25%	4.000000	5.000000	6.000000
50%	7.000000	8.000000	9.000000
75%	10.000000	11.000000	12.000000
max	13.000000	14.000000	15.000000

```
df.nunique()
```

```
   0
A  5
B  5
C  5

dtype: int64
```

```
df['A'].nunique()
```

```
5
```

```
df.shape
```

```
(5, 3)
```

```
df.size
```

```
15
```