1. Write a Pandas program to compare the elements of the two Pandas Series.

In [41]:
```
ds1 = pd.Series([2, 4, 6, 8, 10],index=['a','b','c','d','e'])
ds2 = pd.Series([1, 3, 5, 7, 10],index=['a','b','c','d','e'])
```

In [1]:
```
import pandas as pd
ds1 = pd.Series([2, 4, 6, 8, 10],index=['a','b','c','d',])
ds2 = pd.Series([1, 3, 5, 7, 10],index=['a','b','c','d','e'])

print("Series1:")
print(ds1)

print("Series2:")
print(ds2)

print("Compare the elements of the said Series:")
print("Equals:")
print(ds1 == ds2)

print("Greater than:")
print(ds1 > ds2)

print("Less than:")
print(ds1 < ds2)
```

```
---------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call las
t)
Cell In[1], line 2
      1 import pandas as pd
----> 2 ds1 = pd.Series([2, 4, 6, 8, 10],index=['a','b','c','d',])
      3 ds2 = pd.Series([1, 3, 5, 7, 10],index=['a','b','c','d','e'])
      5 print("Series1:")

File ~/anaconda3/lib/python3.10/site-packages/pandas/core/series.py:500,
in Series.__init__(self, data, index, dtype, name, copy, fastpath)
    498     index = default_index(len(data))
    499 elif is_list_like(data):
--> 500     com.require_length_match(data, index)
    502 # create/copy the manager
    503 if isinstance(data, (SingleBlockManager, SingleArrayManager)):

File ~/anaconda3/lib/python3.10/site-packages/pandas/core/common.py:576,
in require_length_match(data, index)
    572 """
    573 Check the length of data matches the length of the index.
    574 """
    575 if len(data) != len(index):
--> 576     raise ValueError(
    577         "Length of values "
    578         f"({len(data)}) "
    579         "does not match length of index "
    580         f"({len(index)})"
    581     )

ValueError: Length of values (5) does not match length of index (4)
```

2. Write a Pandas program to find the positions of numbers that are multiples of 5 of a given

In [4]:
```
import pandas as pd
import numpy as np
num_series = pd.Series(np.random.randint(1, 10, 9))

print("Original Series:")
print(num_series)

result = np.where(num_series % 5==0)

print("Positions of numbers that are multiples of 5:")
print(result)
```

```
Original Series:
0    8
1    7
2    7
3    9
4    2
5    2
6    1
7    7
8    6
dtype: int64
Positions of numbers that are multiples of 5:
(array([], dtype=int64),)
```

3. Write a for loop that outputs the values of the dictionary below:

SoccerPlayers = {'Madrid':'Modric', 'Bayern':'Kimmich', 'Tottenham':'Kane', 'PSG': 'Mbappe', 'Barca':'Lewandowski'}

In [36]:
```
SoccerPlayers = {'Madrid':'Modric', 'Bayern':'Kimmich', 'Tottenham':'Kane',
for x in SoccerPlayers:
    print(SoccerPlayers[x])
```

```
Modric
Kimmich
Kane
Mbappe
Lewandowski
```

4. Create a Histogram of a random distribution of values 1 to 10 with 100 repetitions. Provide a title and name the x and y axis. Use the color red

In [5]:
```
import matplotlib.pyplot as plt
import numpy as np

x = np.random.randint(1, 11, 100)

plt.figure(figsize=(8,5))

plt.ylabel('Number of Values')
plt.xlabel('Values')
plt.title('Random Distribution of Values 1 to 10')

plt.hist(x, color="b")

plt.show()
```