2. Create a 2-dimensional array of size m x n integer elements, also print the shape, type and data type of the array and then reshape it into an n x m array, where n and m are user inputs given at the run time.py

In [ ]:
```
import numpy as np
m = int(input("Enter the number of rows: "))
n = int(input("Enter the number of columns: "))
arr = np.random.randint(1,10,(m,n))
```

In [ ]:
```
print("Original array:")
print(arr)
```

```
Original array:
[[3 5 8]
 [5 6 9]
 [7 9 4]]
```

In [ ]:
```
print("Shape of the array: ",arr.shape)
print("Type of the array: ",type(arr))
print("Data type of the array: ",arr.dtype)
```

```
Shape of the array:  (3, 3)
Type of the array:  <class 'numpy.ndarray'>
Data type of the array:  int64
```

In [ ]:
```
arr1 = arr.reshape(n,m)
print("Reshaped array:")
print(arr1)
```

```
Reshaped array:
[[3 5 8]
 [5 6 9]
 [7 9 4]]
```

In [ ]:
```
print("Shape of the array: ",arr1.shape)
print("Type of the array: ",type(arr1))
print("Data type of the array: ",arr1.dtype)
```

```
Shape of the array:  (3, 3)
Type of the array:  <class 'numpy.ndarray'>
Data type of the array:  int64
```