3. Test whether the elements of a given 1D array are zero, non-zero and NaN. Record the indices of these elements in three separate arrays.py

```
In [ ]:  import numpy as np
         arr = np.array([1,2,0,0,4,0])
         print("Original array:")
         print(arr)
```

```
Original array:
[1 2 0 0 4 0]
```

```
In [ ]:  print("Test whether the elements of the said array are zero or not:")
         print(np.isin(arr,0))
         print("Test whether the elements of the said array are non-zero or not:")
         print(np.nonzero(arr))
         print("Test whether the elements of the said array are NaN or not:")
         print(np.isnan(arr))
```

```
Test whether the elements of the said array are zero or not:
[False False  True  True False  True]
Test whether the elements of the said array are non-zero or not:
(array([0, 1, 4]),)
Test whether the elements of the said array are NaN or not:
[False False False False False False]
```

```
In [ ]:  print("Indices of non-zero elements of the said array:")
         print(np.nonzero(arr)[0])
         print("Indices of zero elements of the said array:")
         print(np.nonzero(arr==0)[0])
         print("Indices of NaN elements of the said array:")
         print(np.nonzero(arr!=arr)[0])
```

```
Indices of non-zero elements of the said array:
[0 1 4]
Indices of zero elements of the said array:
[2 3 5]
Indices of NaN elements of the said array:
[]
```