

Improve type hint in quantum_info

Background: Qiskit-Terra's quantum_info contains many useful classes without type hints.

- Provide more type hints would be a great help for coding

Goal: Provide quantum_info with type hints

- Develop tools to generate type hints from docstrings as automatically as possible
- Manual type hinting for complex portions that cannot be taken care of by the tools
- Use Qiskit Neko integration tests to check the health of terra

```
def tensor(self, other):  
    """Return the tensor product state self  $\otimes$  other.  
    Args:  
        other (Statevector): a quantum state object.  
    Returns:  
        Statevector: the tensor product operator self  $\otimes$  other.  
    Raises:  
        QiskitError: if other is not a quantum state.  
    """
```



```
def tensor(self, other: 'Statevector') -> 'Statevector':
```

Team:

Mentee: Shunsuke Sotobayashi 

Mentor: Ikko Hamamura 