```python
class FiniteRelationProperties(ABC):
    @abstractmethod
    def is_surjective(self, fr: FiniteRelation) -> bool:
        """ Return True if the relation is surjective. """

    @abstractmethod
    def is_injective(self, fr: FiniteRelation) -> bool:
        """ Return True if the relation is injective. """

    @abstractmethod
    def is_defined_everywhere(self, fr: FiniteRelation) -> bool:
        """ Return True if the relation is defined everywhere. """

    @abstractmethod
    def is_single_valued(self, fr: FiniteRelation) -> bool:
        """ Return True if the relation is single-valued """
```