

```
self.test_for_collision()
```

```
def test_for_completeness(self):
```

```
    """
```

```
    Check all the keys in self.out.ruleset.reference_dict against the whole set  
    of possibilities. Make sure that all possible cases are covered by one of  
    the reference keys in self.out.ruleset.reference_dict.
```

```
    """
```

```
    key_space = list(itertools.product(*self.out.ruleset.dimensions))
```

```
    reference_keys = self.out.ruleset.reference_dict.keys()
```

```
    for reference_key in reference_keys:
```

```
        # Each reference key is a tuple. The elements of the tuple are integers  
        # or tuples of integers. Wrap all the integer elements inside tuples,  
        # so all the elements of prepared_ref_key are iterable.
```

```
        prepared_ref_key = itertools.imap(self.wrapScalarValueAndSort,  
                                           reference_key,  
                                           )
```

```
        # Take the distilled reference key and explode it in to keys which are  
        # tuples of integers.
```

```
        for exploded_key in itertools.product(*prepared_ref_key):
```

```
            # If we have overlap in the keys, this will catch it.
```

```
            base_key = self.out.ruleset[exploded_key]
```