setapp

Class Set

```
java.lang.Object
  └ setapp.Set
```

```
public class Set
extends java.lang.Object
```

Field Summary

private java.util.ArrayList<java.lang.String>	**elements**

Constructor Summary

Set() creates an empty set
Set(java.util.ArrayList<java.lang.String> s) creates a set using the elements of the ArrayList s.
Set(java.lang.String[] s) creates a set using the elements of the array s.

Method Summary

int	**cardinality**() determines the size of this set.
Set	**diff**(Set s) computes the difference between this set and the specified set.
boolean	**equals**(Set s) determines whether this set is equal to the specified set.
Set	**intersect**(Set s) computes the intersection of this set and the specified set.
boolean	**isElement**(java.lang.String elt) determines whether a set contains the specified element
boolean	**isEmpty**() determines whether a set is empty
boolean	**properSubset**(Set s) determines whether this set is a proper subset of the specified set.
boolean	**subset**(Set s) determines whether this set is a subset of the specified set.
Set	**symDiff**(Set s) computes the symmetric difference between this set and the specified set.
java.lang.String	**toString**() returns a string {x1,x2,...,xn} representing this set, where x1,x2,...,xn are elements of this set.
Set	**union**(Set s) computes the union of this set and the specified set.
Set	**xProduct**(Set s) computes the Cartesian product for this set and the specified set.

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, wait, wait, wait

Field Detail

elements

```
private java.util.ArrayList<java.lang.String> elements
```

Constructor Detail

Set

```
public Set()
```

creates an empty set

Set

```
public Set(java.util.ArrayList<java.lang.String> s)
```

creates a set using the elements of the ArrayList s.

Parameters:
s - the ArrayList whose elements are used to create this set.
Throws:
java.lang.IllegalArgumentException - if s contains duplicity.

Set

```
public Set(java.lang.String[] s)
```

creates a set using the elements of the array s.

Parameters:
s - the array whose elements are used to create this set.
Throws:
java.lang.IllegalArgumentException - if s contains duplicity.

Method Detail

isElement

```
public boolean isElement(java.lang.String elt)
```

determines whether a set contains the specified element

Parameters:
elt - an element
Returns:
true if elt is an element of this set; otherwise, false

---

cardinality

```
public int cardinality()
```

determines the size of this set.

Returns:
the size of this set.

---

intersect

```
public Set intersect(Set s)
```

computes the intersection of this set and the specified set.

Parameters:
`s` - a set
Returns:
a set representing the intersection of this set and s.

---

union

```
public Set union(Set s)
```

computes the union of this set and the specified set.

Parameters:
`s` - a sets
Returns:
a set representing the union of this set and s.

---

diff

```
public Set diff(Set s)
```

computes the difference between this set and the specified set.

Parameters:
`s` - a set
Returns:
a set representing the difference between this set and s.

---

symDiff

```
public Set symDiff(Set s)
```

computes the symmetric difference between this set and the specified set.

Parameters:
`s` - a set
Returns:
a set representing the symmetrix difference between this set and s.

---

xProduct

```
public Set xProduct(Set s)
```

computes the Cartesian product for this set and the specified set.

Parameters:
`s` - a set
Returns:
a set representing the Cartesian product of this set and s.

---

isEmpty

```
public boolean isEmpty()
```

determines whether a set is empty

Returns:
true if this set is empty; otherwise, false

---

equals

```
public boolean equals(Set s)
```

determines whether this set is equal to the specified set.

Parameters:
`s` - a set
Returns:
true if this set is equal to s; otherwise, false

---

subset

```
public boolean subset(Set s)
```

determines whether this set is a subset of the specified set.

Parameters:
`s` - a set
Returns:
true if this set is a subset of s; otherwise, false

---

properSubset

```
public boolean properSubset(Set s)
```

determines whether this set is a proper subset of the specified set.

Parameters:
`s` - a set
Returns:
true if this set is a proper subset of s; otherwise, false

---

toString

```
public java.lang.String toString()
```

returns a string {x1,x2,...,xn} representing this set, where x1,x2,...,xn are elements of this set.

Overrides:
`toString` in class `java.lang.Object`

Returns:
a string representation of this set formatted as specified.
