

Strand[i , j] represents a strand from index i to index j that can be stitched with other strands into longer strands or circles.

```
SetAttributes[Strand, Orderless];
```

```
Strand /: Strand[i_, j_] Strand[j_, k_] :=  
  Strand[i, k];
```

```
Strand /: Strand[i_, i_] :=  $-q^{1/2} - q^{-1/2}$ ;
```

```
Strand /: Strand[___]2 :=  $-q^{1/2} - q^{-1/2}$ ;
```