

# GetIndexOfPauliString

```
SetDirectory @ NotebookDirectory[];  
Import["../Link/QuESTlink.m"];
```

## Doc

? GetIndexOfPauliString

Symbol

GetIndexOfPauliString[pauliString] returns the index of the given Pauli string  
in the ordered basis of Pauli strings. The zero target is treated as least significant.



## Correctness

```
GetIndexOfPauliString[Id4]
```

0

```
GetIndexOfPauliString[X0]
```

```
GetIndexOfPauliString[Y0]
```

```
GetIndexOfPauliString[Z0]
```

1

2

3

```
GetIndexOfPauliString[X1]
```

```
GetIndexOfPauliString[X1 Id0]
```

4

4

```
GetIndexOfPauliString[Z34] == 3 × 434
```

True

```
GetIndexOfPauliString[Product[Zt, {t, 0, 34}]] == 434+1 - 1
```

True

```
ind = 1245194;
```

```
ind == GetIndexOfPauliString @ GetPauliStringFromIndex[ind]
```

True

# Errors

**GetIndexOfPauliString[Plop<sub>3</sub>]**

... **GetIndexOfPauliString**: Invalid arguments. See ?GetIndexOfPauliString

\$Failed

**GetIndexOfPauliString[-1]**

... **GetIndexOfPauliString**: Invalid arguments. See ?GetIndexOfPauliString

\$Failed