

?? PermutationProduct

PermutationProduct[a, b, c] gives the product of permutations a, b, c . >>

Attributes[PermutationProduct] = {Flat, OneIdentity, Protected}

? Flat

Flat is an attribute that can be assigned to a symbol f to indicate that all expressions involving nested functions f should be flattened out. This property is accounted for in pattern matching. >>

? OneIdentity

OneIdentity is an attribute that can be assigned to a symbol f to indicate that $f[x], f[f[x]]$, etc. are all equivalent to x for the purpose of pattern matching. >>

```
SetAttributes[f, Flat];
```

```
f[x_] := x;
```

```
f[x, y]
```

```
$IterationLimit::itlim: Iteration limit of 4096 exceeded. >>
```

```
Hold[f[x, y]]
```

```
SetAttributes[g, {Flat, OneIdentity}];
```

```
g[x]
```

```
g[x]
```

```
g[g[x]]
```

```
g[x]
```

```
SetAttributes[h, {Flat, OneIdentity}];
```

```
h[seq___] := hh[seq];
```

```
hh[] = 0;
```

```
hh[seq___, a_] := 10 hh[seq] + a;
```

```
h[1, 2, 3]
```

```
123
```

```
h[1]
```

```
1
```

```
h[]
```

```
0
```

`h[1, 23]`

33

`h[h[1], h[2, 3]]`

33