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✓ 3. geomutils.py — geometry helper functions

This file contains the shared geometry operations.

python

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```
import FreeCAD, Part
```

```
import math
```

```
EPS_COINCIDENT = 1e-3
```

```
EPS_COLLINEAR = 1e-4
```

```
def is_collinear(l1, l2, tol=EPS_COLLINEAR):
```

```
    d1 = l1.EndPoint - l1.StartPoint
```

```
    d2 = l2.EndPoint - l2.StartPoint
```

```
    if d1.Length == 0 or d2.Length == 0:
```

```
        return False
```

```
    return abs(d1.normalize().dot(d2.normalize())) > (1.0 - tol)
```

```
def merge_connected_lines(lines):
```

```
    used = set()
```

```
    chains = []
```

```
    for i, ln in enumerate(lines):
```

```
        if i in used:
```

```
            continue
```

```
        chain = [ln]
```

```
        used.add(i)
```

```
        extended = True
```



```
        while extended:
```

