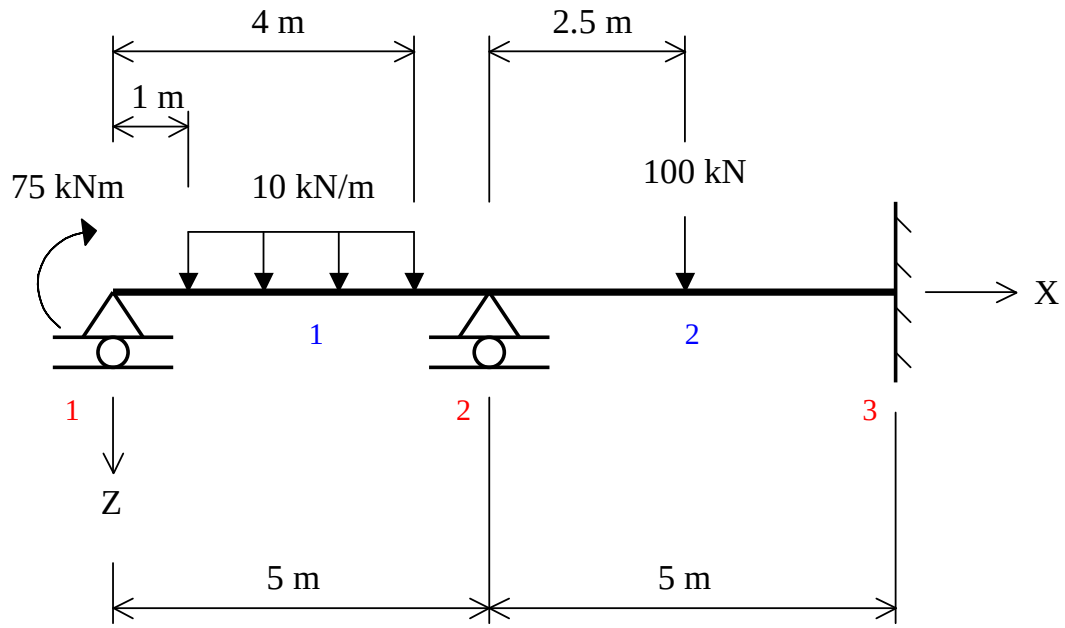
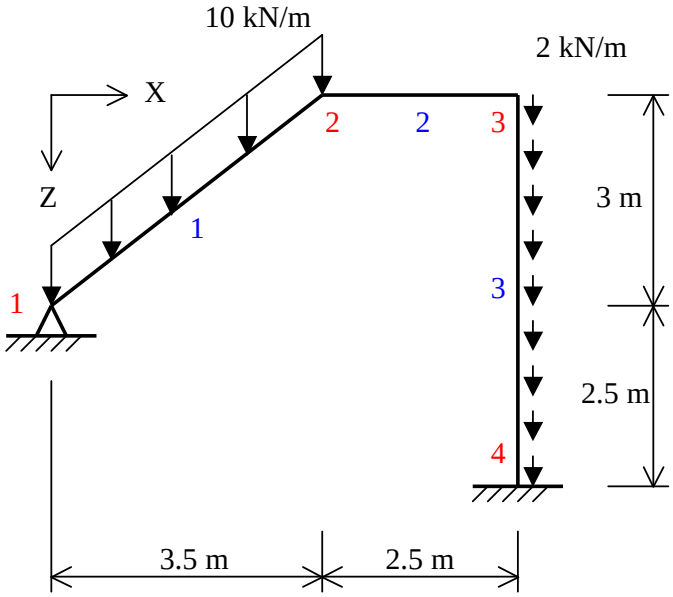
# Example 1




The properties of member 1 & 2 are: A: 0.08 $m^2$ Iy: $1.067*10^{-3}$ $m^4$ E: $3*10^7$ $kN/m^2$

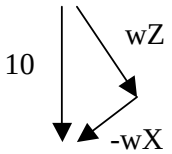
NODE:
```
[ [ 0 0 ] [ 5 0 ] [ 10 0 ] ]
```
MEMB:
```
[ [ 1 2 1 ] [ 2 3 1 ] ]
```
PROP:
```
[ [ 0.08 1.067*10^-3 3*10^7 ] ]
```
SUPP:
```
[ [1 0 1 0 ] [ 2 0 1 0 ] [ 3 1 1 1 ] ]
```
NLF:
```
[ [ 1 0 0 -75 ] ]
```
MLC:
```
[ [ 2 0 100 0 2.5 ] ]
```
MLZ:
```
[ [ 1 10 10 1 4 ] ]
```

# Example 2




Member properties are; member 1 & 2: A: 0.08 $m^2$ Iy: $1.067*10^{-3}$ $m^4$ E: $3*10^7$ $kN/m^2$ , member 3: A: 0.15 $m^2$ Iy: $2.0*10^{-3}$ $m^4$ E: $2*10^8$ $kN/m^2$.

Observations:
Note that the uniform load on member 1 is defined in the global Z-direction but the member is not horizontally orientated. Thus we have to calculate the local wX and wZ (member loads are always defined in the local coordinate system of the member!).




$\sqrt{(3.5*3.5+3.0*3.0)} = 4.61$

-wX = 10 / 4.61 * 3.0 = 6.51 kN/m
wZ = 10 / 4.61 * 3.5 = 7.59 kN/m

The input for FEM48 looks like this (make sure you select FRAME as structure type):
NODE:

```
[ [ 0 3 ] [ 3.5 0 ] [ 6 0 ] [ 6 5.5 ] ]
```

MEMB:

```
[ [ 1 2 1 ] [ 2 3 1 ] [ 3 4 2 ] ]
```

PROP:

```
[ [ 0.08 1.067*10^-3 3*10^7 ] [ 0.15 2.0*10^-3 2*10^8 ] ]
```

SUPP:

```
[ [ 1 1 1 0 ] [ 4 1 1 1 ] ]
```

MLX:

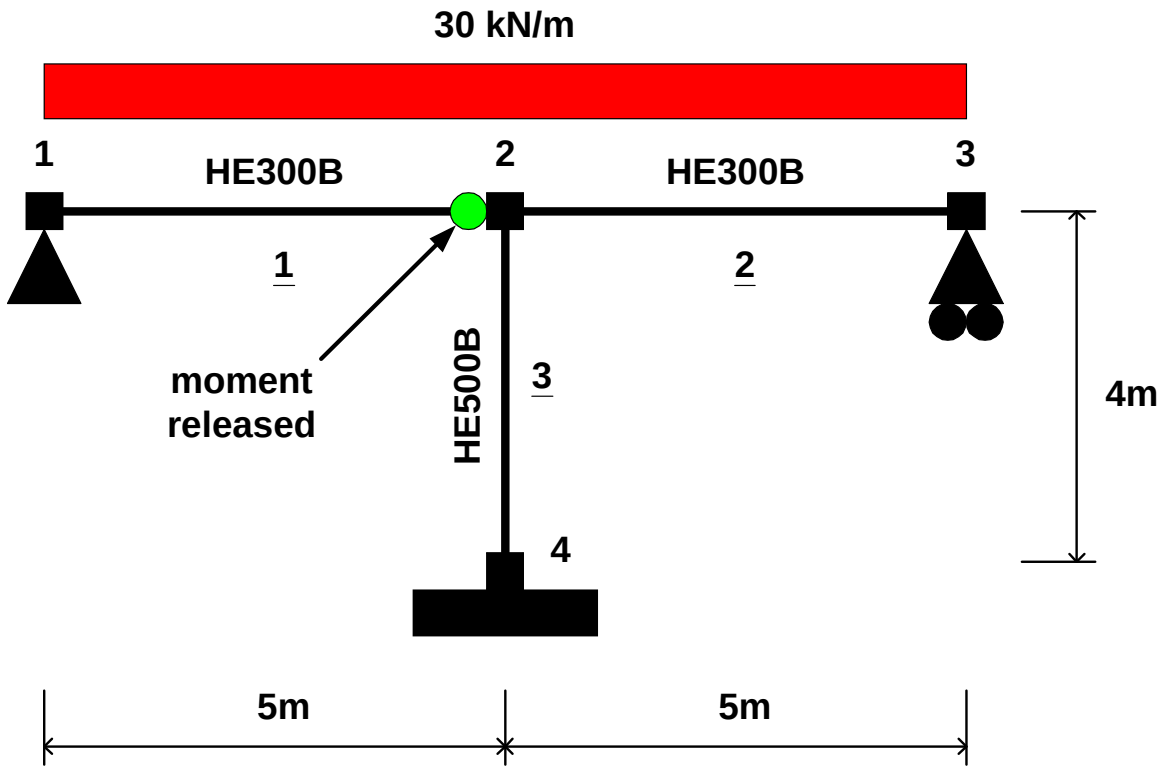
```
[ [ 1 -6.51 -6.51 0 0 ] [3 2 2 0 0 ] ]
```

MLZ:

```
[ [ 1 7.59 7.59 0 0 ] ]
```

Note that you can also use the MLZG command from the WIZRD module to generate these loads.

## Example 3




NODE:
```
[ [ 0 0 ] [ 5 0 ] [ 10 0 ] [ 5 4 ] ]
```
MEMB:
```
[ [ 1 2 1 ] [ 2 3 1 ] [ 4 2 2 ] ]
```
PROP:
```
[ [ .01491 .00025166 210000000 ] [ .02386 .00107176 210000000 ] ]
```
SUPP:
```
[ [ 1 1 1 0 ] [ 3 0 1 0 ] [ 4 1 1 1 ] ]
```
MREL:
```
[ [ 1 0 1 ] ]
```
MLZ:
```
[ [ 1 30 30 0 0 ] [2 30 30 0 0 ] ]
```