

Median einer sortierten Liste

```
(%i14) load(descriptive)$
```

Median einer sortierten Liste laut Wikipedia 

Fall 1: n ist gerade

Median, wenn n gerade

```
(%i15) n:2*(random(29)+1);
(%o15) 20
```

Man berechne den Median dieser Liste

```
(%i16) x:makelist(random(20)+1,i,1,n);
(%o16) [5,7,16,1,18,17,6,15,8,3,19,14,1,7,3,7,17,8,15,7]
```

```
(%i17) x:sort(x);
(%o17) [1,1,3,3,5,6,7,7,7,7,8,8,14,15,15,16,17,17,18,19]
```

```
(%i18) n:length(x);
(%o18) 20
```

```
(%i19) m:median(x);
(%o19)  $\frac{15}{2}$ 
```

```
(%i20) m:1/2*(x[n/2]+x[n/2+1]);
(%o20)  $\frac{15}{2}$ 
```

Fall 2: n ist ungerade

Median, wenn n ungerade

```
(%i21) n:2*(random(29)+1)-1;
(%o21) 25
```

Man berechne den Median dieser Liste

```
(%i22) x:makelist(random(15)+1,i,1,n);
(%o22) [7,2,14,13,1,8,13,7,4,6,8,10,5,7,12,15,6,14,14,9,4,5,
,11,12,4]
```

```
(%i23) x:sort(x);  
(%o23) [1, 2, 4, 4, 4, 5, 5, 6, 6, 7, 7, 7, 8, 8, 9, 10, 11, 12, 12, 13, 13, 14,  
14, 14, 15]
```

```
(%i24) n:length(x);  
(%o24) 25
```

```
(%i25) m:median(x);  
(%o25) 8
```

```
(%i26) m:x[(n+1)/2];  
(%o26) 8
```