Benutzerdefinierte Funktionen

Dokumentnummer: D2034
Fachgebiet: Funktionen, Graphen, Informatik, Fallunterscheidung
Einsatz: 2HAK (erstes Lernjahr)

1 Betragsfunktion

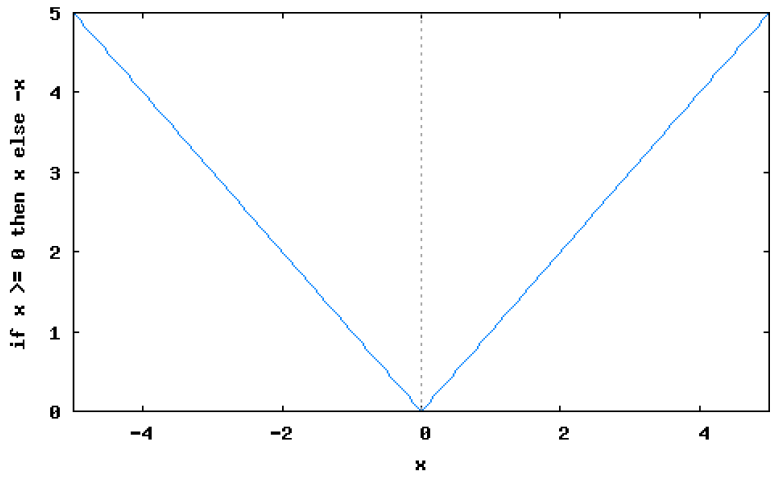
```
(%i1) define(a(x),if x>=0 then x else -x);
(%o1) a(x):=if x>=0 then x else -x
```

```
(%i2) a(3);
(%o2) 3
```

```
(%i3) a(-3);
(%o3) 3
```

```
(%i4) wxplot2d([a(x)], [x,-5,5])$
```

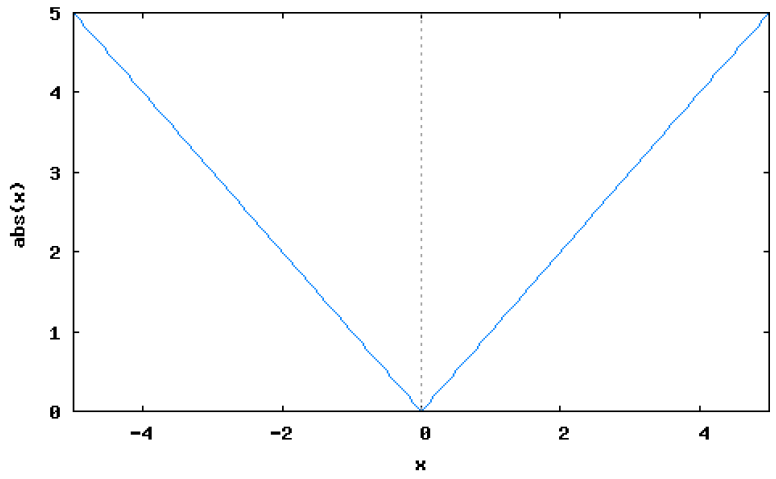
(%t4)



Es gibt auch eine Bibliotheksfunktion abs(x)

```
(%i5) wxplot2d([abs(x)], [x,-5,5])$
```

(%t5)

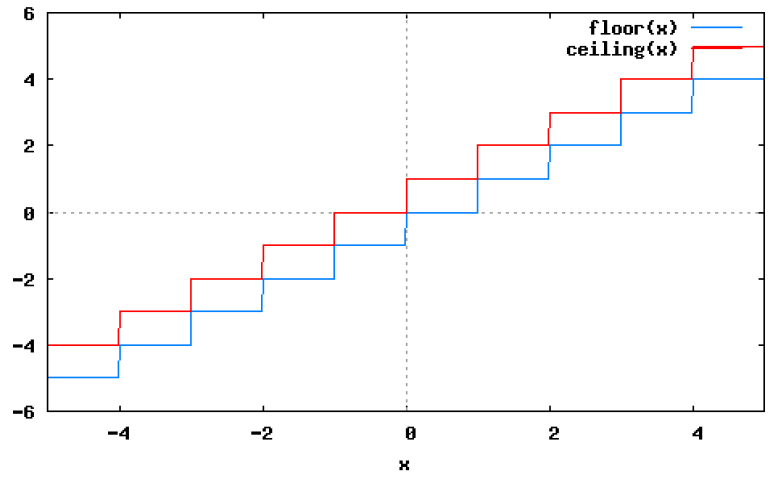


2 Diverse Funktionen

Bibliotheksfunktionen

```
(%i6) wxplot2d([floor(x),ceiling(x)], [x,-5,5])$
```

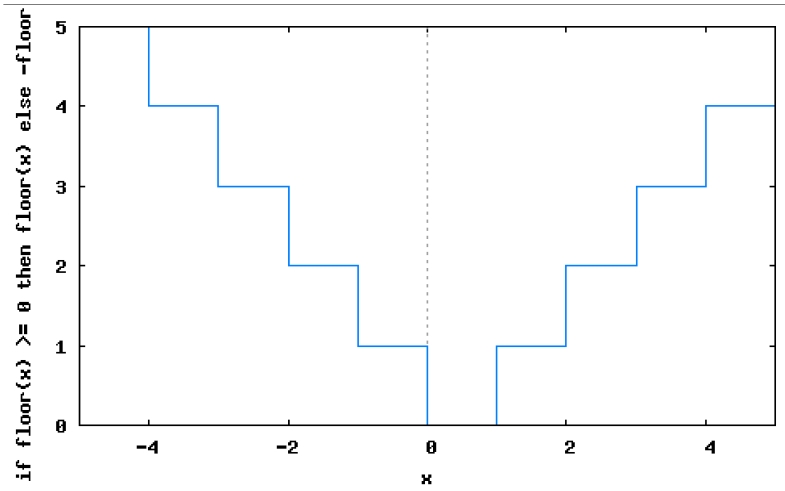
(%t6)



Anwendung von a(x)

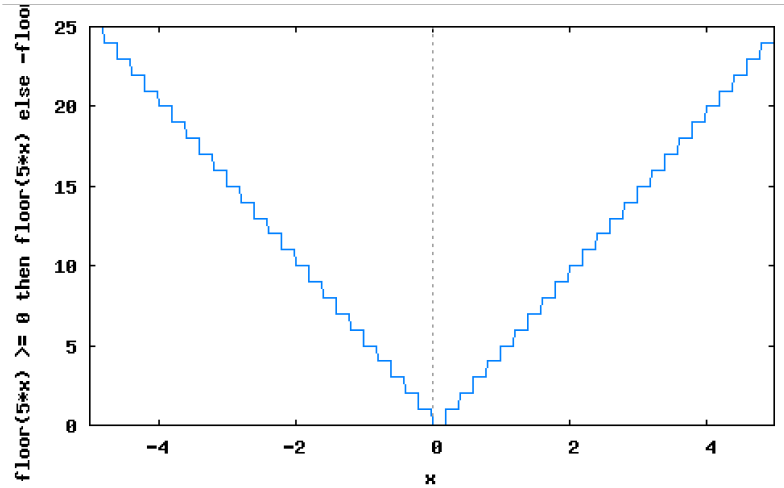
```
(%i7) wxplot2d([a(floor(x))], [x,-5,5])$
```

(%t7)



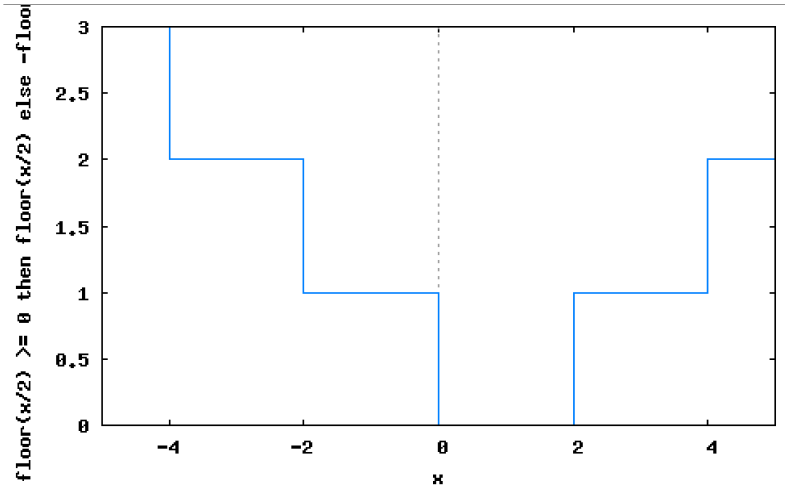

```
(%i8) wxplot2d([a(floor(5*x))], [x,-5,5])$
```

(%t8)



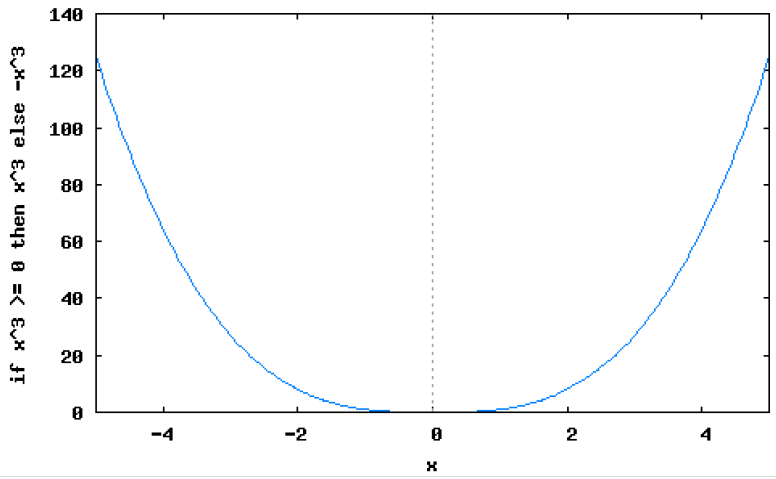
```
(%i9) wxplot2d([a(floor(x/2))], [x,-5,5])$
```

(%t9)



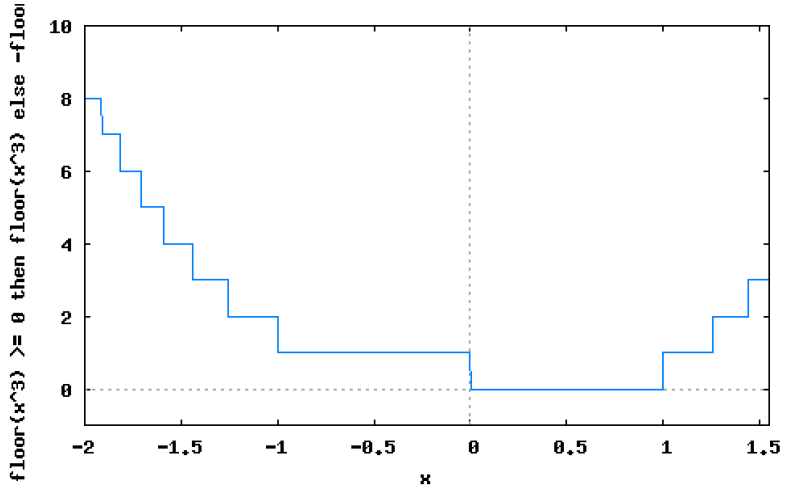

```
(%i10) wxplot2d([a(x**3)], [x,-5,5])$
```

(%t10)




```
(%i11) wxplot2d([a(floor(x**3))], [x,-2,1.55], [y,-1,10])$
```

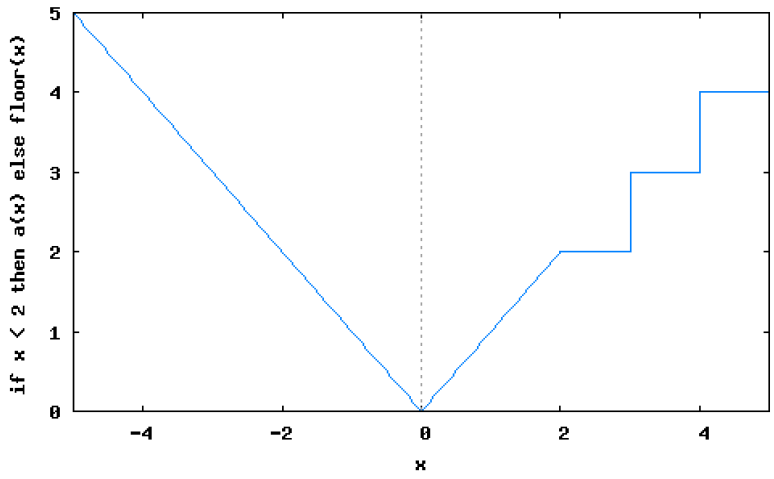
(%t11)




```
(%i12) define(b(x),if x<2 then a(x) else floor(x));
(%o12) b(x):=if x<2 then a(x) else floor(x)
```

```
(%i13) wxplot2d([b(x)], [x,-5,5])$
```

(%t13)




```
(%i14) define(c(x),if x<-3 then floor(x) elseif x<2 then a(x) else floor(x));
(%o14) c(x):=if x<-3 then floor(x) elseif x<2 then a(x) else floor(x)
```

```
(%i15) wxplot2d([c(x)], [x,-5,5])$
```

(%t15)