In[1]:=
```
f[x1_, x2_, x3_] := Exp[-(x1^2 + x2^2 - Sqrt[2] (x1 x2) + x3^2 / 2) / (2 Pi Sqrt[Pi])]
```

In[2]:=
```
f[0, 0, 0]
```

Out[2]= 1

In[4]:=
```
Integrate[f[x1, x2, x3], {x2, -Infinity, Infinity}]
```

Out[4]= $\sqrt{2}\, e^{-\frac{x1^2+x3^2}{4\pi^{3/2}}}\, \pi^{5/4}$

In[5]:=
```
f
```

Out[5]= f

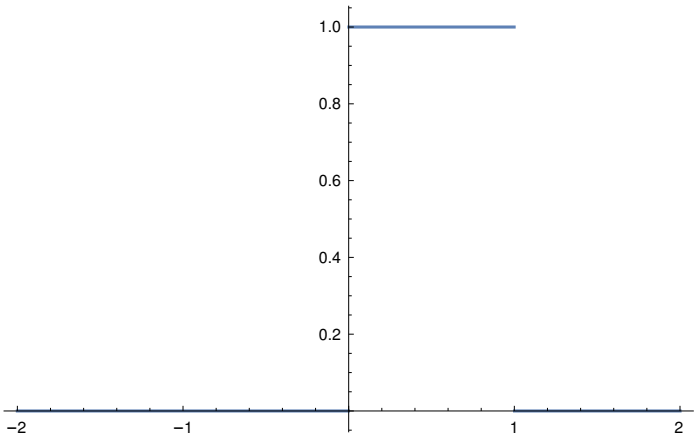
In[6]:=
```
f[x1, x2, x3]
```

Out[6]= $e^{\frac{-x1^2+\sqrt{2}\, x1\, x2-x2^2-\frac{x3^2}{2}}{2\pi^{3/2}}}$

In[7]:=
```
s[x_] := If[x > 0 && x < 1, 1, 0]
```

In[8]:=
```
Plot[s[x], {x, -2, 2}]
```

Out[8]=



In[9]:=
```
s2[x_] := Integrate[s[y] × s[x - y], {y, -Infinity, Infinity}]
```

In[10]:=
```
Plot[s2[x], {x, -3, 3}]
```

Out[10]=