Petri nets are widely used in computer science as a graphical tool for describing processes that can be done in series or in parallel. Mathematically, a Petri net can be seen as a presentation of a symmetric monoidal category: this general idea has been known since 1990, but the details are only now becoming clear. An "open" Petri net is one with some of the generating objects serving as inputs and outputs. We can compose open Petri nets by gluing the outputs of one to the inputs of another, making open Petri nets themselves into the morphisms of a symmetric monoidal category. This fascinating double link between open Petri nets and symmetric monoidal categories is, in fact, one reason Petri nets are such a powerful tool. (Received August 29, 2019)