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Evolution of massive stars and core-collapse supernova.

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The mass of a star defines the maximum temperature that can be reached in the stellar core and hence the possible burning products. Massive stars are able to follow all burning processes and produce an Iron core that finally collapses and leading to a core-collapse supernova explosion. The low mass limit defines what are the lowest mass neutron
stars that can be formed. Similarly there should be an upper mass limit such as the collapse leads to the formation of a black hole. Ascentaining those limits and its dependence on nuclear reactions is important to understand the population of stellar mass black holes and neutron stars that is accessible to gravitational wave interferometers.

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