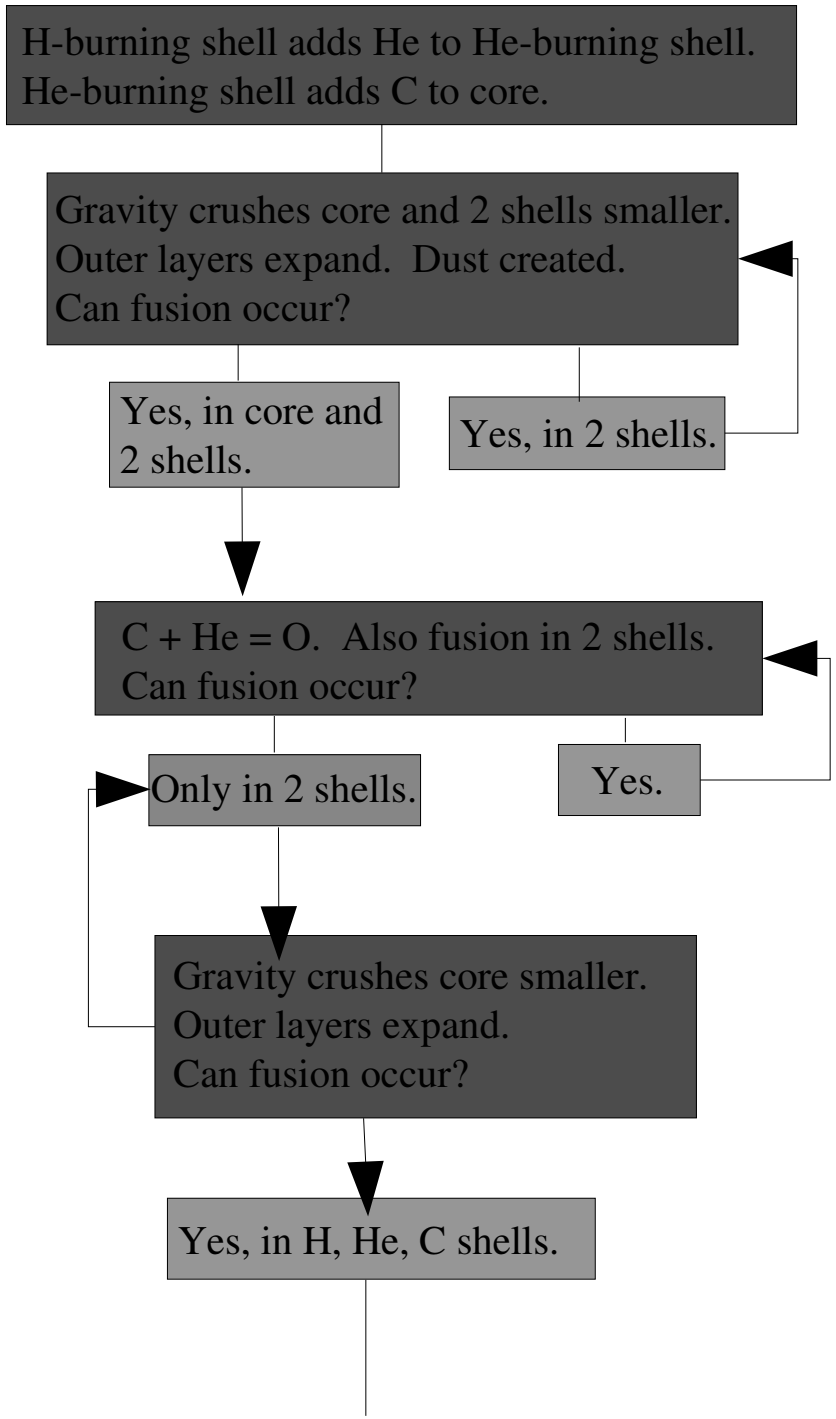
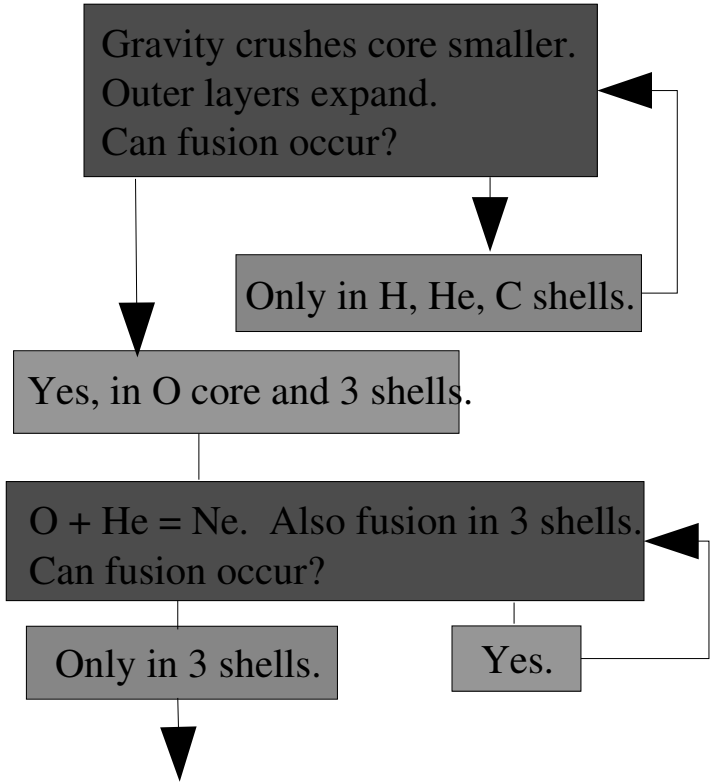
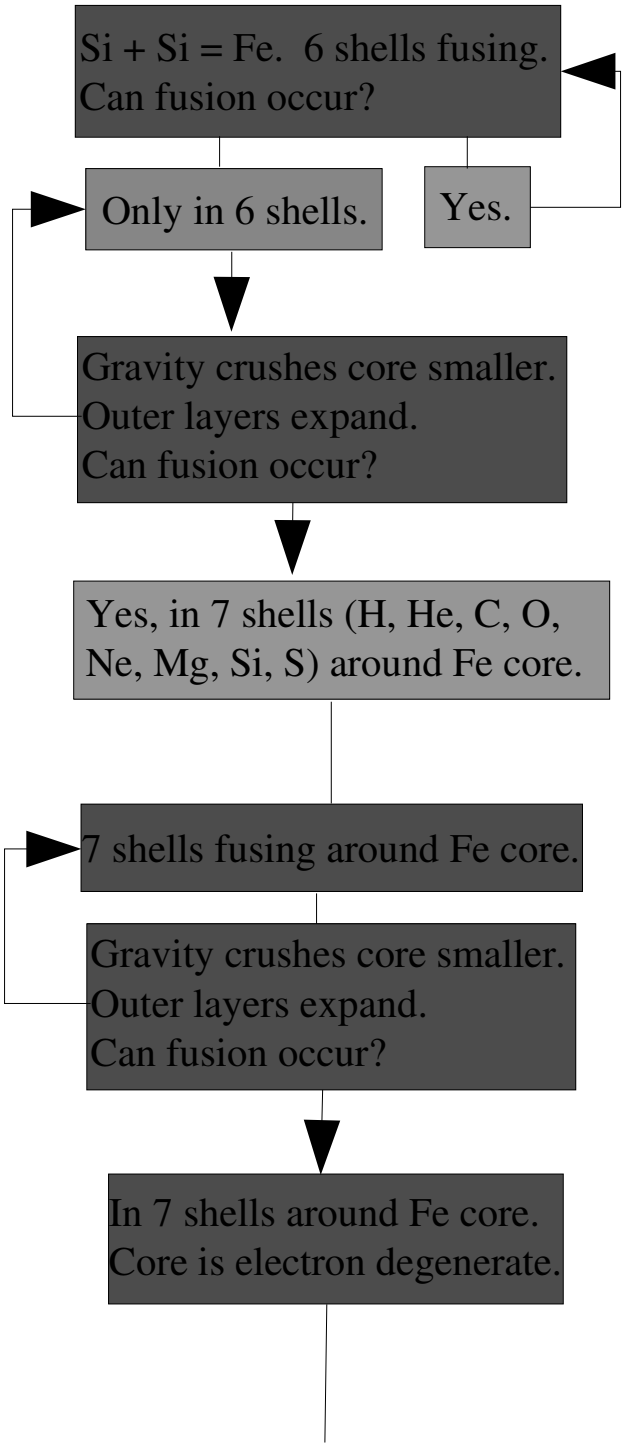
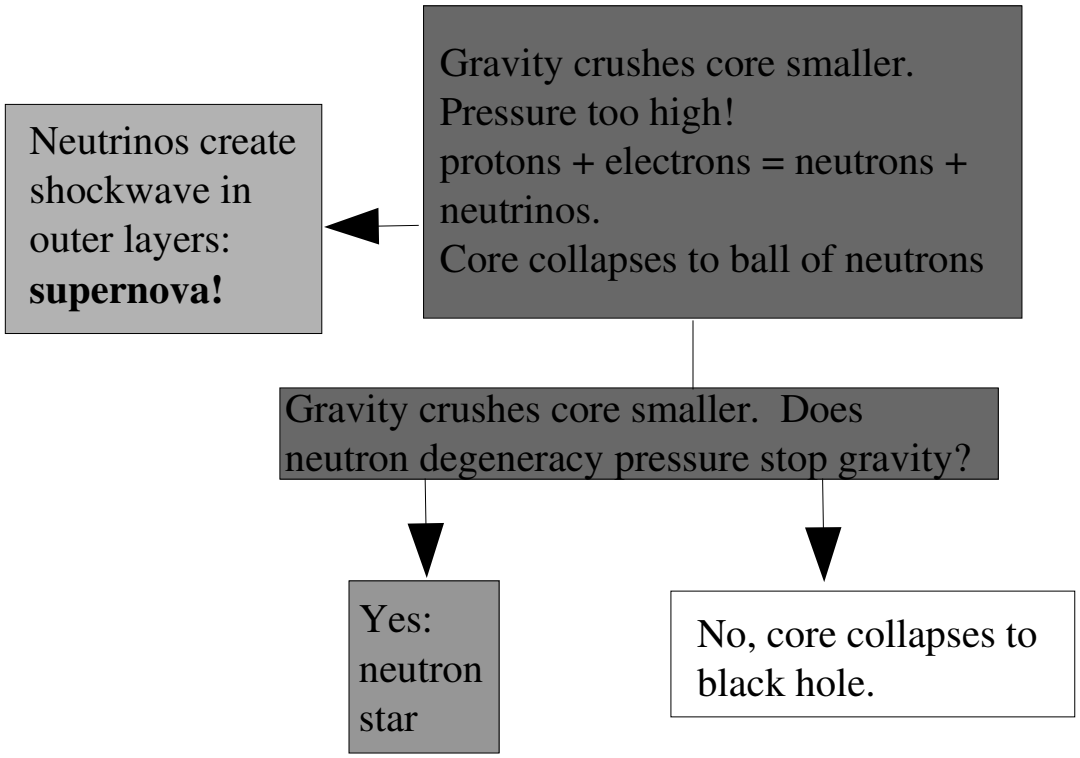
supergiant stage





This process repeats, adding more fusing shells and new element fusing in core.


Si + Si = Fe. 6 shells fusing.
Can fusion occur?
Only in 6 shells.
Yes.
Gravity crushes core smaller.
Outer layers expand.
Can fusion occur?
Yes, in 7 shells (H, He, C, O,
Ne, Mg, Si, S) around Fe core.
7 shells fusing around Fe core.
Gravity crushes core smaller.
Outer layers expand.
Can fusion occur?
In 7 shells around Fe core.
Core is electron degenerate.


Gravity crushes core smaller.
Pressure too high!
protons + electrons = neutrons + neutrinos.
Core collapses to ball of neutrons
Neutrinos create shockwave in outer layers:
supernova!
Gravity crushes core smaller. Does neutron degeneracy pressure stop gravity?
Yes: neutron star
No, core collapses to black hole.