A client wants you to design the logic for a device to control a forced-air furnace.

- The logic will have three inputs:
  - hot – this input will be active ('1') if the furnace is too hot.
  - door – this input will be active if the furnace door is open.
  - fuel – this input will be active when fuel is present.
- The logic will have two outputs.
  - blow – turns on the blower fan when active.
    - Should not be active if the door is open, if there is no fuel, or if the furnace is too hot.
    - Otherwise, should be active.
  - alert – sounds an alarm to let someone know that something is wrong.
    - Should be active in two situations: 1) when the furnace is out of fuel, and 2) when the door is open and the furnace is too hot.
    - Otherwise, should be inactive.

Use the description above to write two Boolean expressions – one for each output.