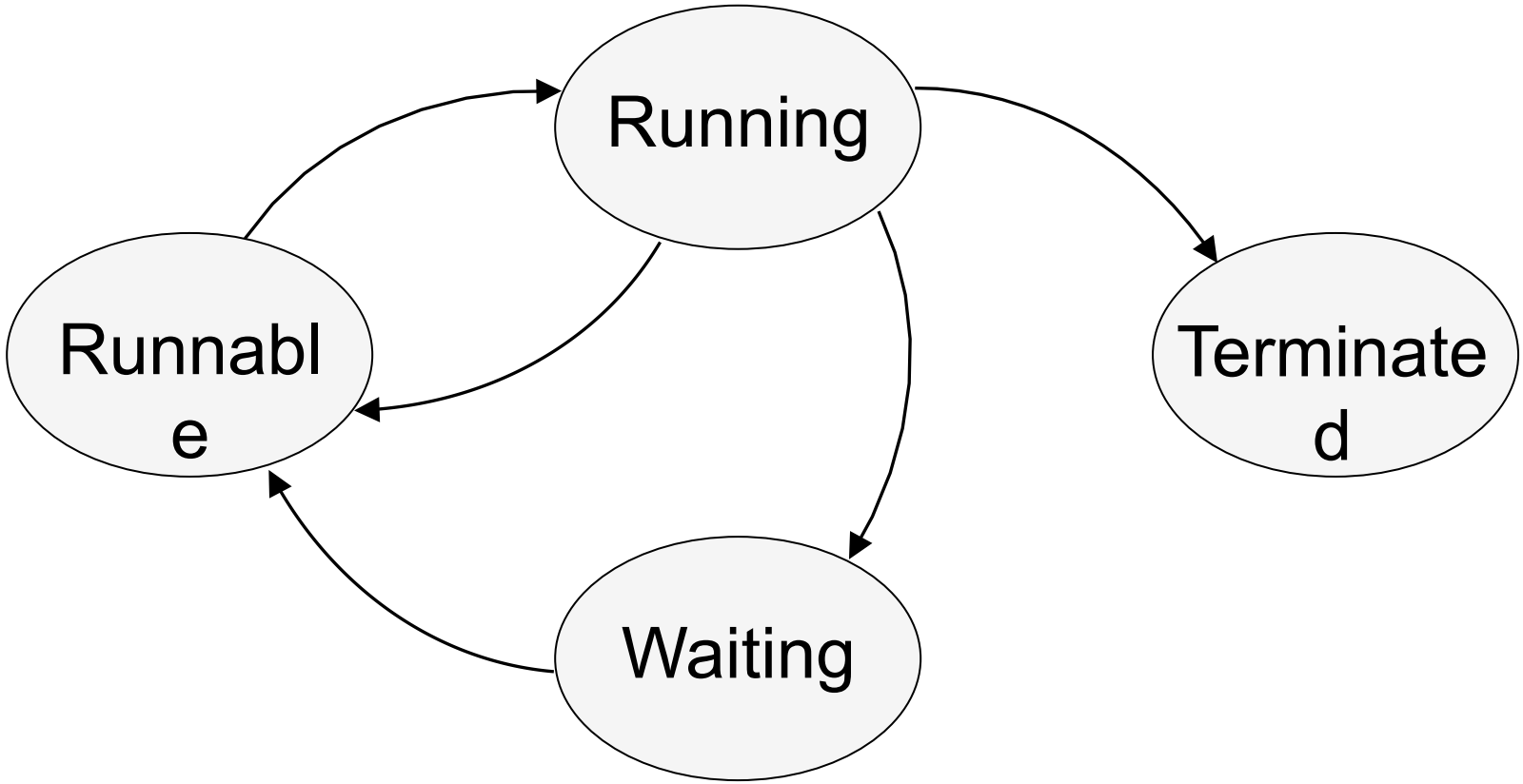
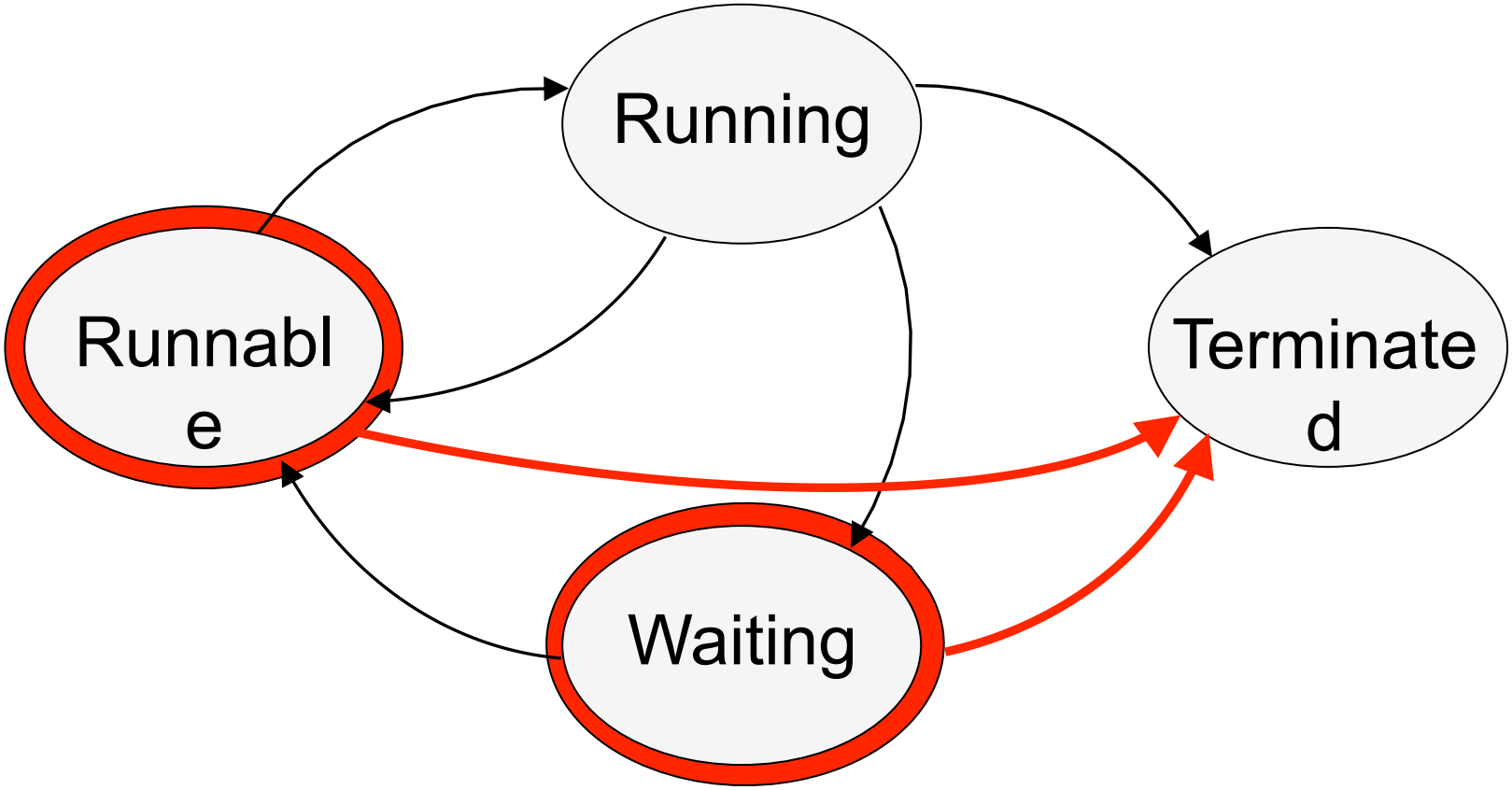
These state diagrams assume that a process can only reach the "Terminated" state from the "Running" state. How could a process in the "Runnable" or "Waiting" state transition to the "Terminated" state?



User could kill process before the process has called exit()!

Ex: Control-C a process

Ex: kill -9 1831



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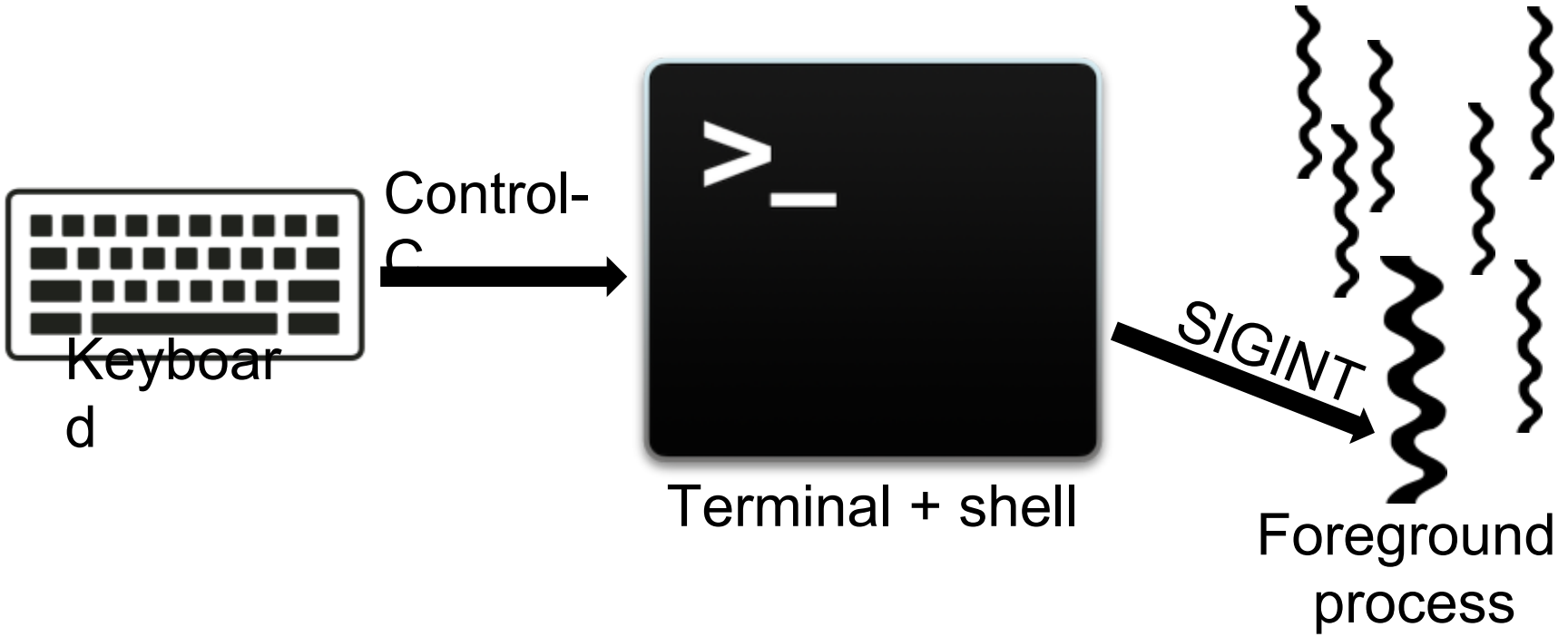
Ex: Control-C a process → Generates SIGINT

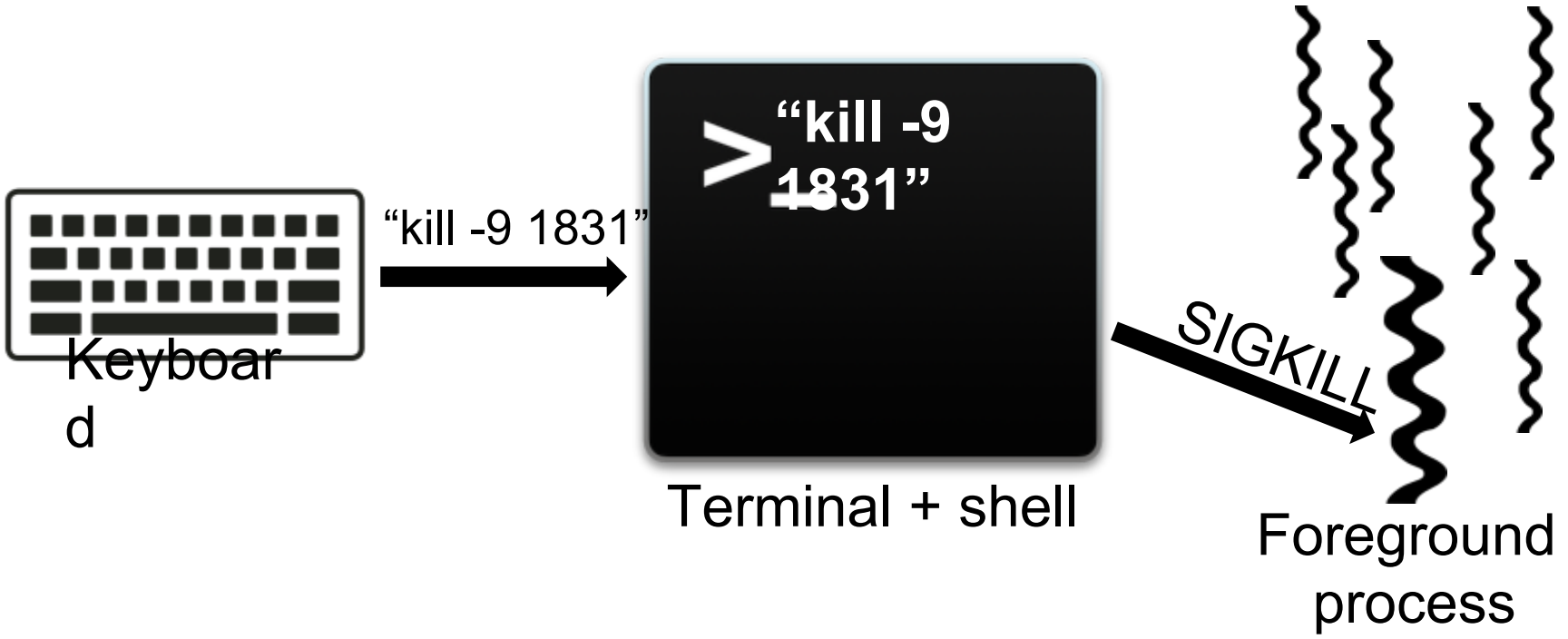
Ex: kill -9 1831



User could kill process before the process has called exit()!

Ex: Control-C a process → Generates SIGINT

Ex: kill -9 1831 → Generates SIGKILL



Define a simple C function that, when invoked, will eventually cause a stack overflow. Then describe how the stack overflow might lead to data corruption of heap objects.

```
unsigned int factorial(unsigned int n){
    if(n == 1){
       return 1;
    }else{
       return n * factorial(n-1);
    }
}
factorial(6); //Works as expected.
factorial(0); //Disaster strikes!
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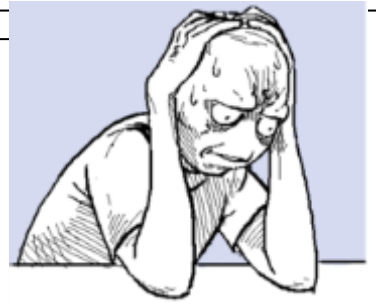
On a 32-bit machine, 0-1 = 4294967295



The FML number

Integer underflow!

Case study: Linux kernel