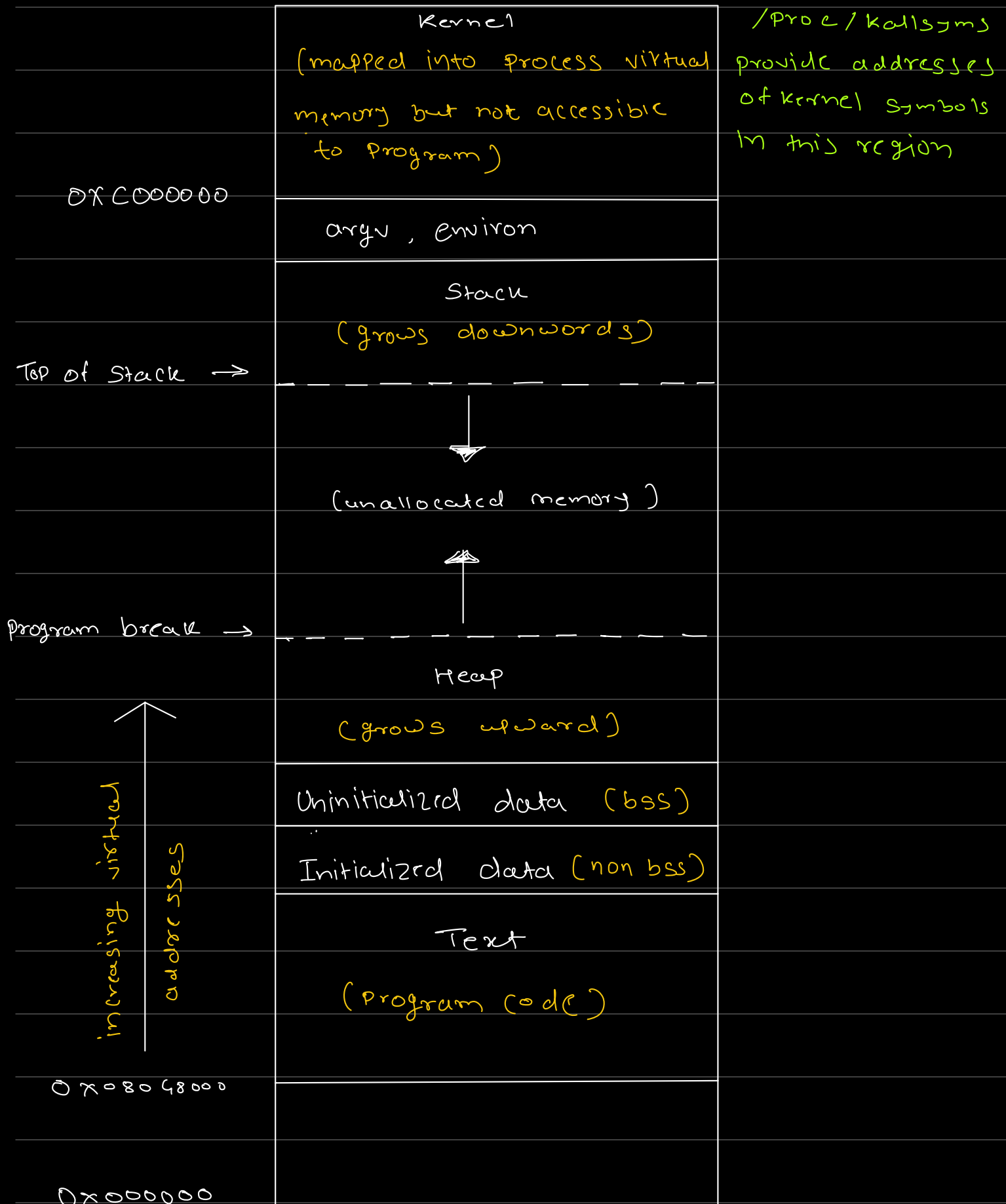
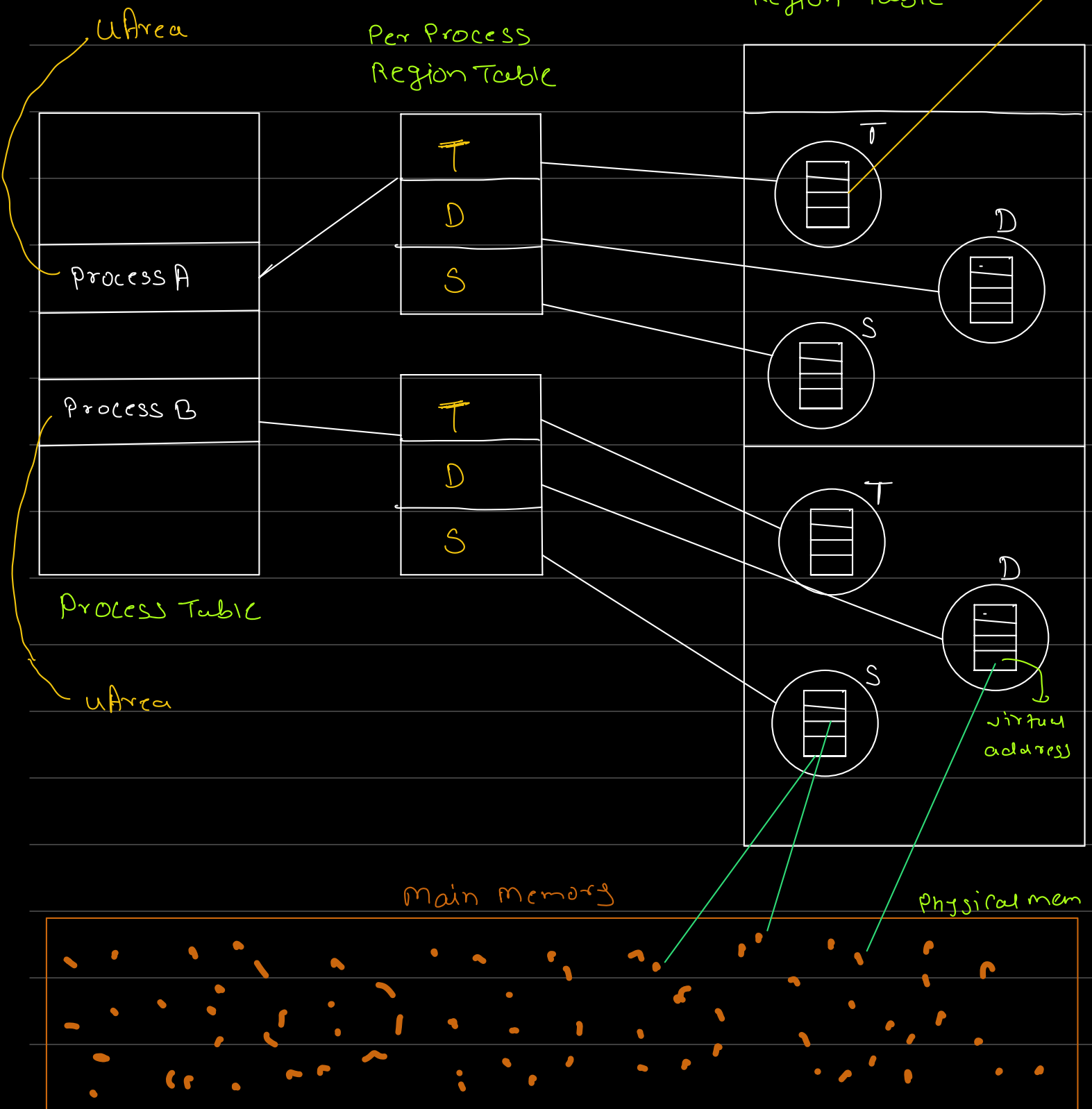


Process layout →



Page Table



fork(), exec(), wait(), exit() flow

```
pid_t childpid;
```

Parent Process A

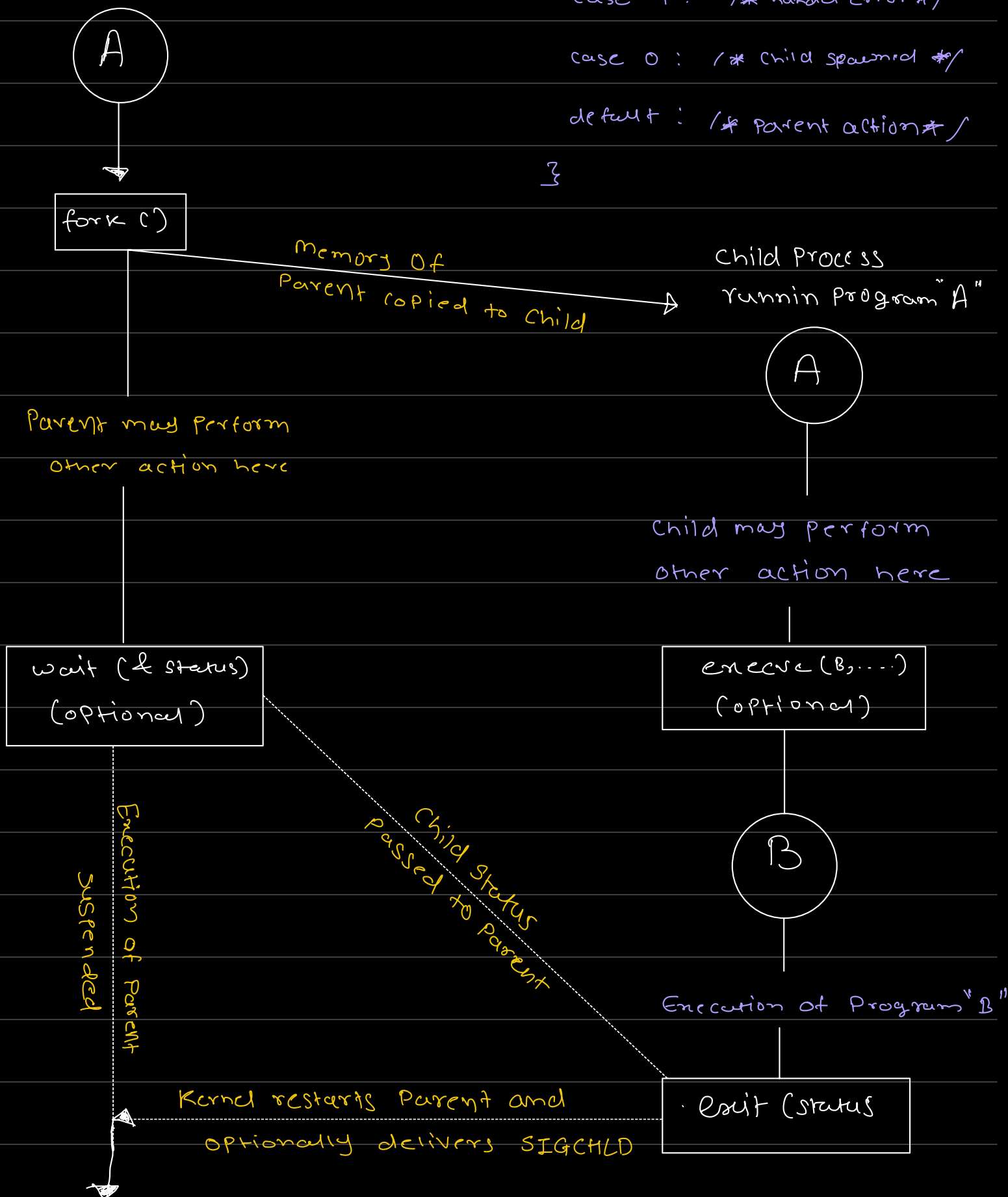
```
switch (childpid = fork())
```

```
{ case -1: /* handle error */
```

```
case 0: /* child spawned */
```

```
default: /* parent action */
```

```
}
```



Parent Page Table

PT Entry 211

Child Page Table

PT Entry 211

Physical Page frames

Frame 1998

Before
modification

Parent Page Table

PT Entry 211

Child Page Table

PT Entry 211

Physical Page frames

Frame 1998
Frame 2038

After
modification

Copy on write \Rightarrow Main Page 211 parent & child write on 2038

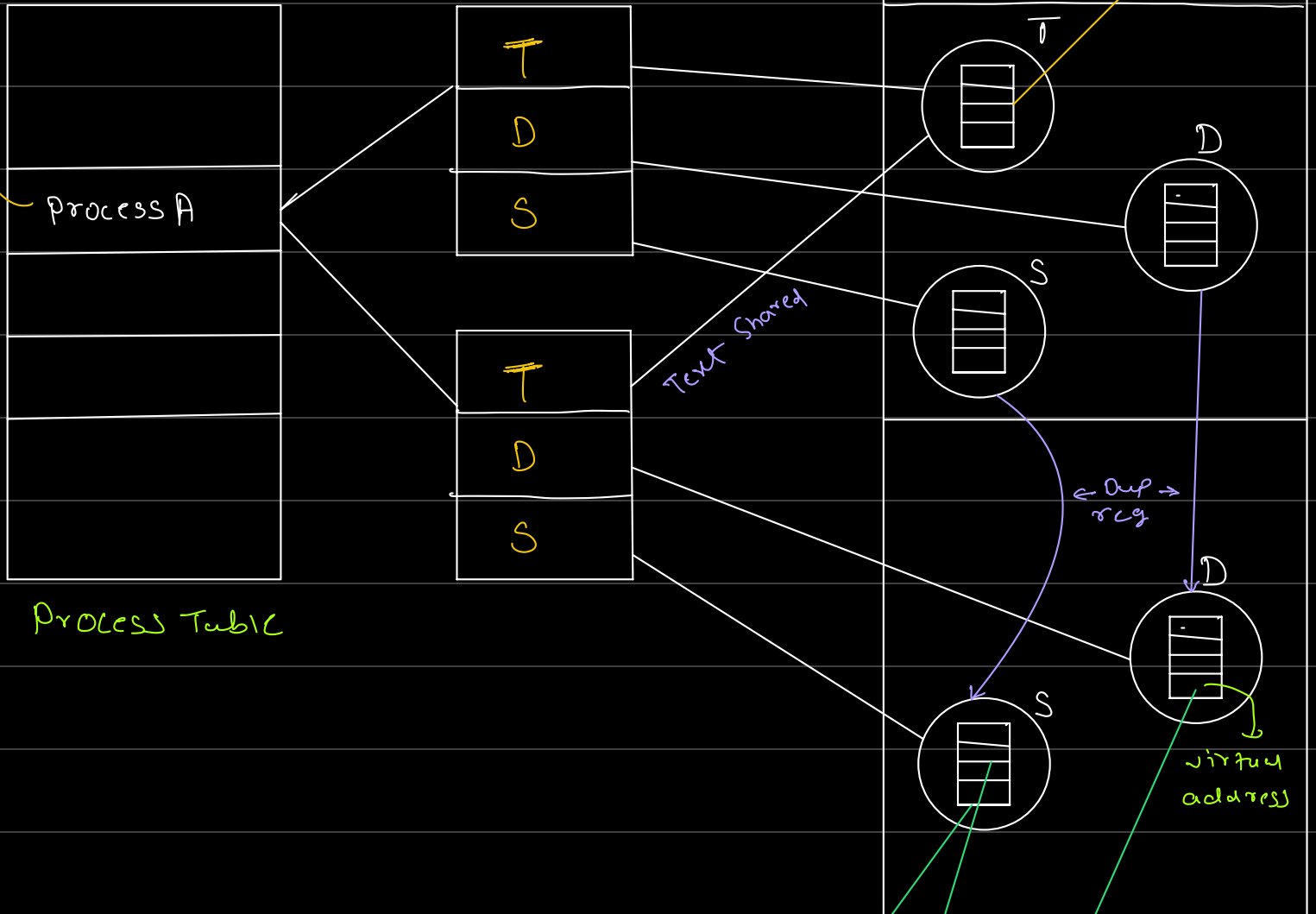
fork() internals →

Page Table

Region Table

UArea

Per Process
Region Table

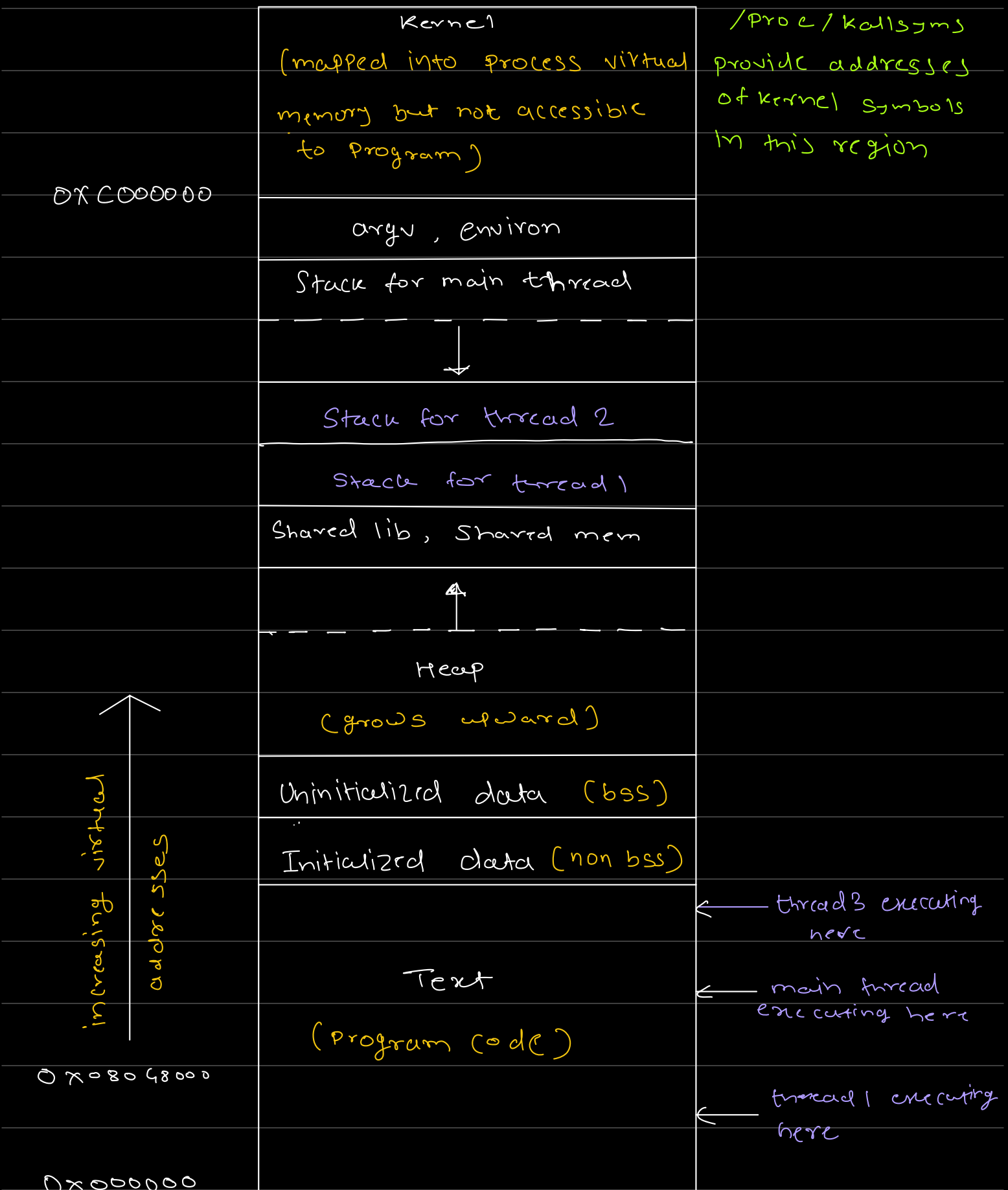


Process Table

Main Memory

Physical mem

2 threads running in a process →



Thread	Process
<p>⇒ Sharing data between threads is easy</p>	<p>for process need to use IPC</p>
<p>⇒ Thread creation is faster</p>	<p>process creation is heavy</p>
<p>⇒ Context switching is faster</p>	<p>context switching is slower</p>
<p>⇒ Thread synchronization is required</p>	<p>synchronisation is not required.</p>
<p>⇒ If any error thread execution will be stopped or abnormal execution stop</p>	<p>Processes are isolated</p>

① Process explain → ① Process layout

② OS ds to manage process → single process

③ fork () → light weight