

// input: n ($n \geq 0$)

```
s = 0;
while (n > 0) {
    s = s + n;
    n = n - 1;
}
```

// output: s

(a)

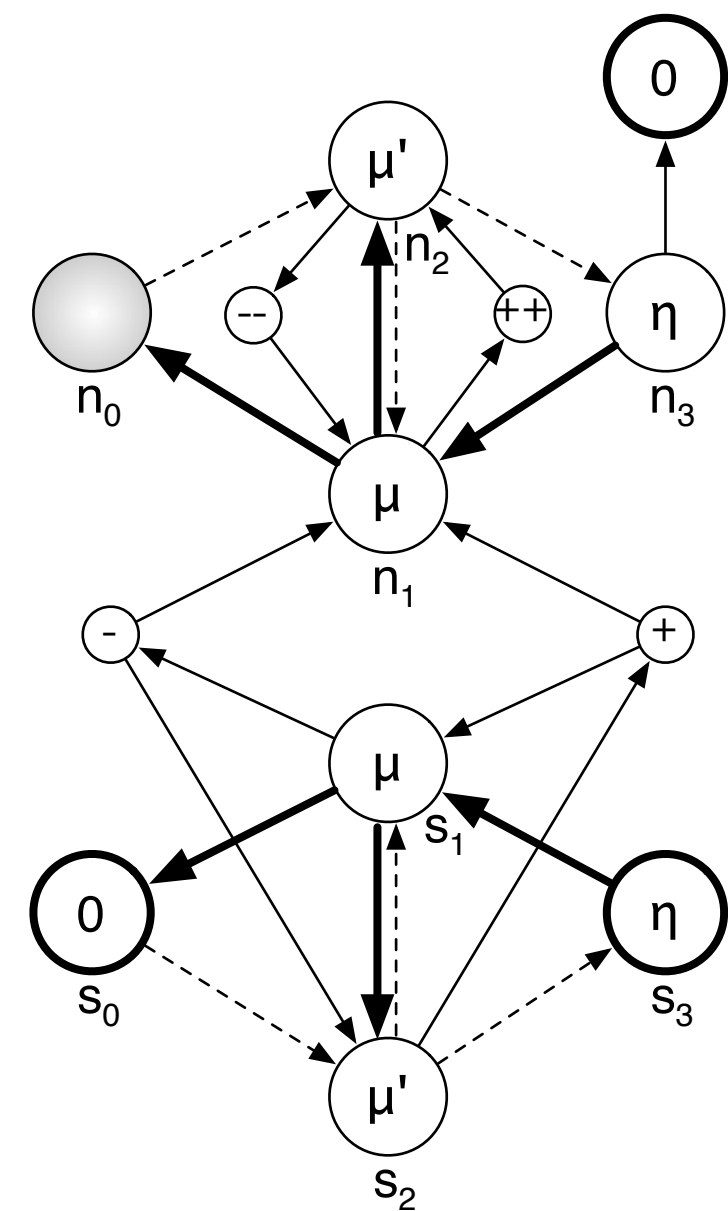
$s_0 = 0;$

$s_1 = \mu(s_0, s_2);$
 $n_1 = \mu(n_0, n_2);$
 while($n_1 > 0$)

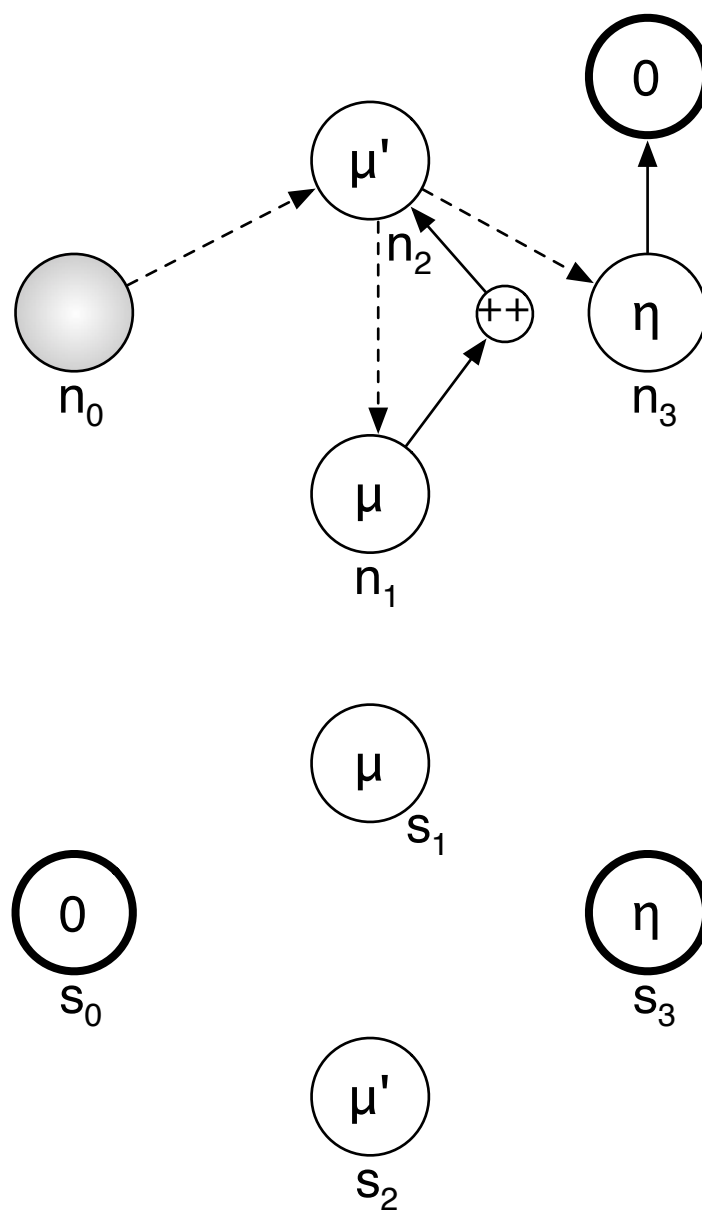
$s_2 = s_1 + n_1;$
 $n_2 = n_1 - 1;$

$s_3 = \eta(s_1);$
 $n_3 = \eta(n_1);$

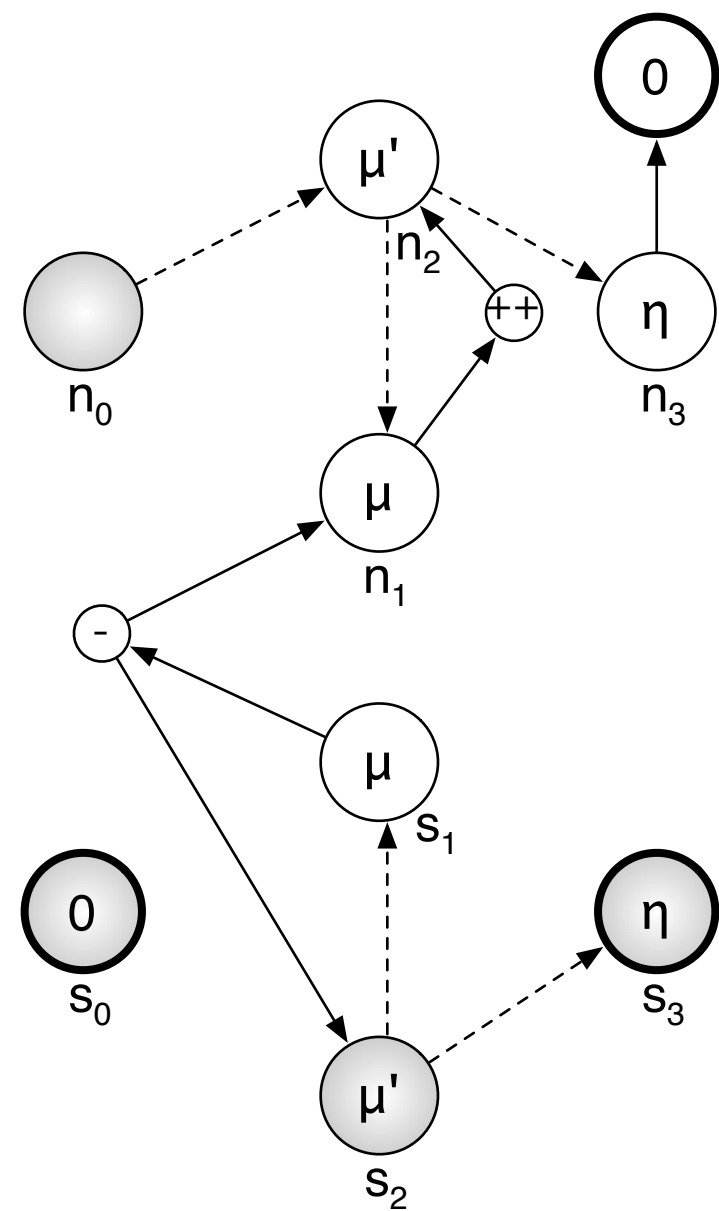
(b)



(c)



(d)



(e)

