

Ex 2.4.)

a.) initial state: $(0, 0)$

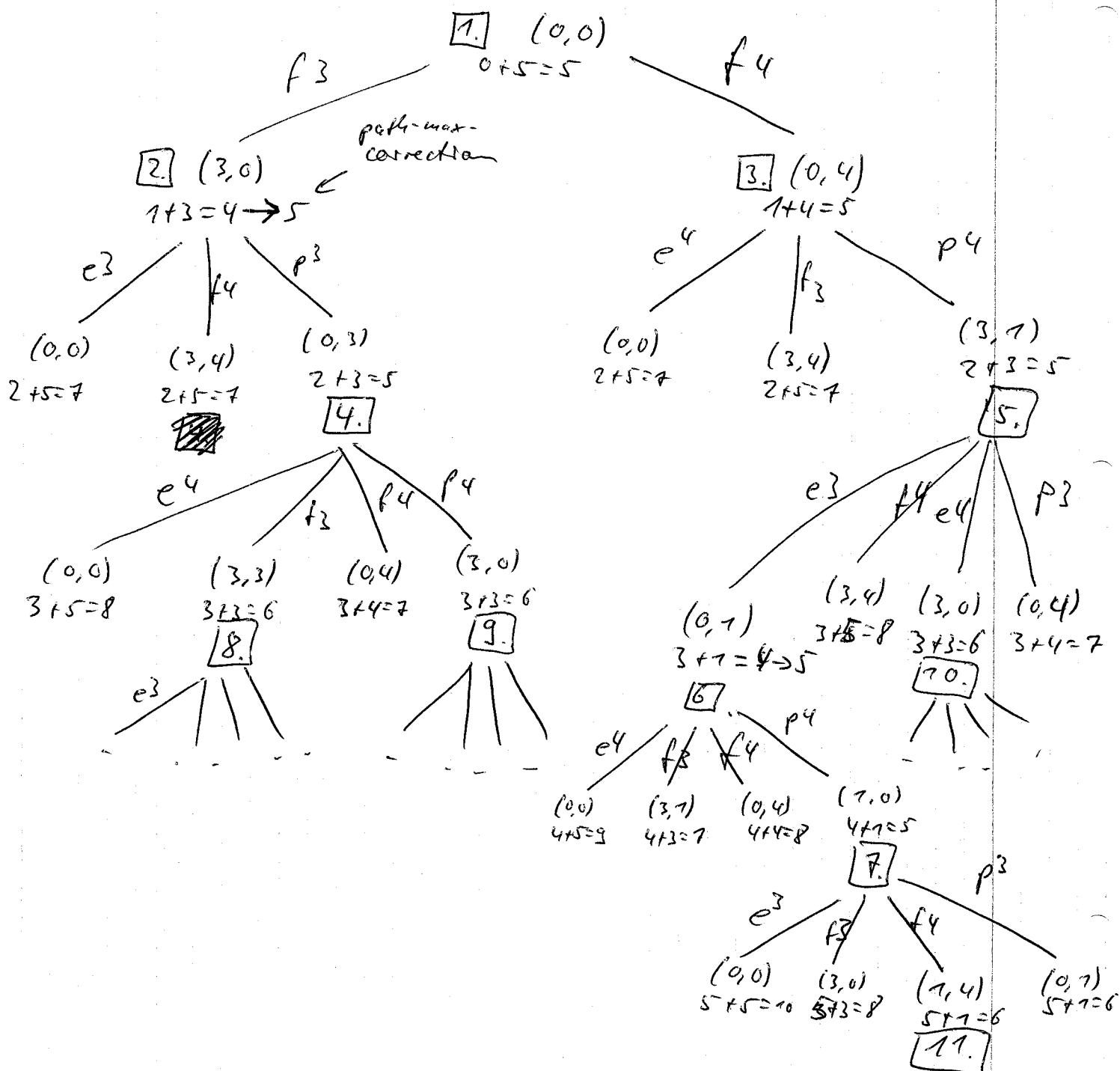
actions:

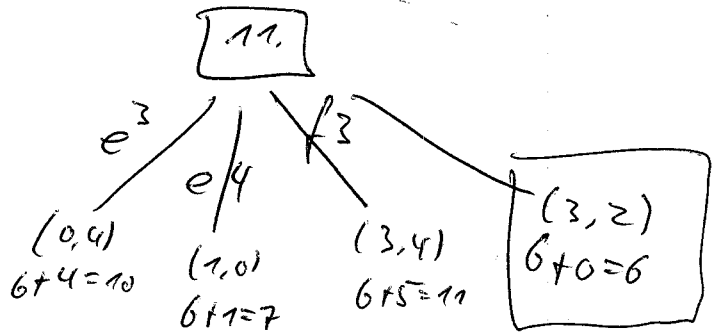
- $e3: (x, y) \rightarrow (0, y) \text{ for } x \neq 0$
- $e4: (x, y) \rightarrow (x, 0) \quad y \neq 0$
- $f3: (x, y) \rightarrow (3, y) \quad x \neq 3$
- $f4: (x, y) \rightarrow (x, 4) \quad y \neq 4$
- $p3: (x, y) \rightarrow (x-2, y+2)$
- $p4: (x, y) \rightarrow (x+2, y-2)$

b.)

state[n]	h(n)
(x, 2)	0
(0, 0)	5
(3, 4)	5
(3, 4), $y \notin \{2, 4\}$	3
(0, 4), $y \notin \{0, 2\}$	y
else	1

c.)





path-max-correction:

u parent of u' $f(u') = \max \{ f(u), g(u') + h(u') \}$

Ex 3.1.)

a)

function MAX-VALUE (state) returns a utility value

if TERMINAL-STATE(state) then
return UTILITY(state)

$v \leftarrow -\infty$

for $\langle a, s \rangle \in \text{SUCCESSORS}(\text{state})$ do

if WINNER(s) = MAX then

$v \leftarrow \max(v, \text{MAX-VALUE}(s))$

else

$v \leftarrow \max(v, \text{MIN-VALUE}(s))$

return v

MIN-VALUE(state) Differences

$v \leftarrow \infty$

if WINNER(s) = MIN

$v \leftarrow \min(v, \text{MIN-VALUE}(s))$

$v \leftarrow \min(v, \text{MAX-VALUE}(s))$

b.) $\text{MAX}[K_{10}, S_3, K_4 | C_8, K_7, D_6] : *^{\circ}$

