#uni/semester3/Betriebssysteme/chapter5/simulator_fragen

Dokumentation:

1. Wenn ein Prozess, das Kinder hat, exits, dann werden die Kinder dem initialen Prozess (a) am Schluss zugewiesen. Hat Prozess b, Kindprozess c und c hat Kinderprozess d. Beim exit vom b, werden c und d getrennt an a zugewiesen.

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -s 30 -c

ARG seed 30
ARG fork_percentage 0.7
ARG actions 5
ARG action_list
ARG show_tree False
ARG just_final False
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve True

                        Process Tree:
                            a

Action: a forks b
                            a
                            └── b
Action: b forks c
                            a
                            └── b
                                └── c
Action: a forks d
                            a
                            ├── b
                            │   └── c
                            └── d
Action: c forks e
                            a
```

```
                                ├── b
                                │   └── c
                                │       └── e
                                └── d

Action: c EXITS

                                a
                                ├── b
                                ├── d
                                └── e
```

2. Mit 0.1 wird am Schluss nur a bleiben. Mit 0.9 sind es sehr viele Prozesse mit mehreren Ästen.

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -a 10 -f 0.1 -c

ARG seed -1
ARG fork_percentage 0.1
ARG actions 10
ARG action_list
ARG show_tree False
ARG just_final False
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve True

                          Process Tree:
                              a


Action: a forks b

                              a
                              └── b

Action: b EXITS

                              a

Action: a forks c

                              a
```

```
                                └── c
Action: c EXITS
                                a
Action: a forks d
                                a
                                └── d
Action: d EXITS
                                a
Action: a forks e
                                a
                                └── e
Action: e EXITS
                                a
Action: a forks f
                                a
                                └── f
Action: a forks g
                                a
                                ├── f
                                └── g
```

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -a 10 -f 0.9 -c

ARG seed -1
ARG fork_percentage 0.9
ARG actions 10
ARG action_list
ARG show_tree False
ARG just_final False
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve True

                            Process Tree:
                                a
```

```
Action: a forks b
                                a
                                └── b
Action: b forks c
                                a
                                └── b
                                    └── c
Action: c forks d
                                a
                                └── b
                                    └── c
                                        └── d
Action: b forks e
                                a
                                └── b
                                    ├── c
                                    │   └── d
                                    └── e
Action: b forks f
                                a
                                └── b
                                    ├── c
                                    │   └── d
                                    ├── e
                                    └── f
Action: f forks g
                                a
                                └── b
                                    ├── c
                                    │   └── d
                                    ├── e
                                    └── f
                                        └── g
Action: f forks h
                                a
                                └── b
                                    ├── c
                                    │   └── d
```

```
                                    ├── e
                                    └── f
                                        ├── g
                                        └── h
```

Action: d forks i

```
                                a
                                └── b
                                    ├── c
                                    │   └── d
                                    │       └── i
                                    ├── e
                                    └── f
                                        ├── g
                                        └── h
```

Action: b forks j

```
                                a
                                └── b
                                    ├── c
                                    │   └── d
                                    │       └── i
                                    ├── e
                                    ├── f
                                    │   ├── g
                                    │   └── h
                                    └── j
```

Action: e forks k

```
                                a
                                └── b
                                    ├── c
                                    │   └── d
                                    │       └── i
                                    ├── e
                                    │   └── k
                                    ├── f
                                    │   ├── g
                                    │   └── h
                                    └── j
```

3. -t zeigt die jeweiligen Graphen aber nicht die Aktionen. Man sollte in der Lage sein jedes Mal die Aktion richtig zu vermuten.

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -t

ARG seed -1
ARG fork_percentage 0.7
ARG actions 5
ARG action_list
ARG show_tree True
ARG just_final False
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve False

                        Process Tree:
                            a

Action?
                            a
                            └── b
Action?
                            a
                            ├── b
                            └── c
Action?
                            a
                            ├── b
                            │   └── d
                            └── c
Action?
                            a
                            ├── b
                            │   └── d
                            ├── c
                            └── e
Action?
```

```
                                a
                                ├── b
                                │   └── d
                                └── e
```

4. siehe 1. Mit -R werden die Kinder nicht dem initialen Prozess zugewiesen, sondern dem lokalen Elternprozess

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)>
./fork.py -A a+b,b+c,c+d,c+e,c- -c

ARG seed -1
ARG fork_percentage 0.7
ARG actions 5
ARG action_list a+b,b+c,c+d,c+e,c-
ARG show_tree False
ARG just_final False
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve True

                          Process Tree:
                              a

Action: a forks b
                              a
                              └── b
Action: b forks c
                              a
                              └── b
                                  └── c
Action: c forks d
                              a
                              └── b
                                  └── c
```

```
                                    └── d

Action: c forks e

                                a
                                └── b
                                    └── c
                                        ├── d
                                        └── e

Action: c EXITS

                                a
                                ├── b
                                ├── d
                                └── e
```

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)>
./fork.py -A a+b,b+c,c+d,c+e,c- -R -c

ARG seed -1
ARG fork_percentage 0.7
ARG actions 5
ARG action_list a+b,b+c,c+d,c+e,c-
ARG show_tree False
ARG just_final False
ARG leaf_only False
ARG local_reparent True
ARG print_style fancy
ARG solve True

                            Process Tree:
                                a

Action: a forks b

                                a
                                └── b

Action: b forks c

                                a
                                └── b
```

```
                                    └── c
Action: c forks d
                                a
                                └── b
                                    └── c
                                        └── d
Action: c forks e
                                a
                                └── b
                                    └── c
                                        ├── d
                                        └── e
Action: c EXITS
                                a
                                └── b
                                    ├── d
                                    └── e
```

5. -F zeigt nur am Ende den Graph. Durch die Aktionen sollte man schon in der Lage sein, den Baumgraph zu zeichnen.

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -F

ARG seed -1
ARG fork_percentage 0.7
ARG actions 5
ARG action_list
ARG show_tree False
ARG just_final True
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve False

                            Process Tree:
                                a
```

```
Action: a forks b
Action: b forks c
Action: c EXITS
Action: b forks d
Action: a forks e

                        Final Process Tree?
```

6. In Fällen wo nur geforkt wurde, kann man immer sagen wie es geschehen war. Also die Anzahl der Prozesse am Schluss ist gleich der n Aktionen + 1 (a gab ja schon) ist. Ist nach 5 Aktionen nur zwei Prozesse übrig geblieben, ist die Lösung nicht eindeutig!

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -t -F -s 5

ARG seed 5
ARG fork_percentage 0.7
ARG actions 5
ARG action_list
ARG show_tree True
ARG just_final True
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve False

                        Process Tree:
                            a

Action?
Action?
Action?
Action?
Action?

                        Final Process Tree:
                            a
```

```
                    └── d
```

```
vladb@VladB ~/G/h/S/B/H/HW2_process-api (master)> ./fork.py -t -F -s 3

ARG seed 3
ARG fork_percentage 0.7
ARG actions 5
ARG action_list
ARG show_tree True
ARG just_final True
ARG leaf_only False
ARG local_reparent False
ARG print_style fancy
ARG solve False

                Process Tree:
                    a

Action?
Action?
Action?
Action?
Action?

              Final Process Tree:
                    a
                    ├── b
                    │   ├── c
                    │   └── f
                    └── d
                        └── e
```