Übungsblatt 3

Aufgabe 1

a)

Algorithm 1: Fakultät

```
   Data: e = 1, x = 1;
1  foreach n do
2  |  e = e · x;
3  |  x = x + 1;
4  end
```

b)

Algorithm 2: Fakultät

```
   Data: x_2 = x_1 + 1, x_3 = x_1, x_4 = 1, x_5 = 1;
1  foreach x_2 do
2  |  foreach x_3 do
3  |  |  x_4 = 0;
4  |  end
5  |  foreach x_4 do
6  |  |  A;
7  |  |  x_5 = 0;
8  |  end
9  end
```

Aufgabe 3

Algorithm 3: WHILE-Programm

```
   Data: counter := 0
1  while n ≠ 0 do
2  |  if n MOD 2 = 1 then
3  |  |  counter := counter + 1 ;
4  |  end
5  |  n := n DIV 2;
6  end
7  if counter MOD 2 = 0 then
8  |  x_0 := 1;
9  else
10 |  x_0 = 0;
11 end
```

Das Ergebnis steht in x_0.