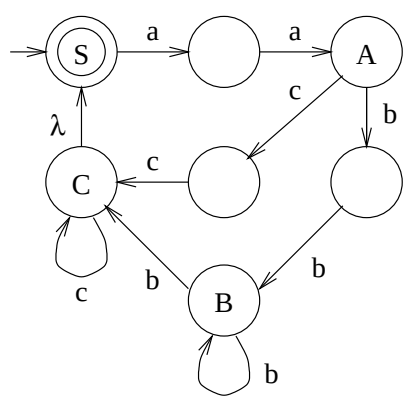
Automata Theory: Solutions 5

```
                                   X
                                   X
                           X       X
                           X       X
                           X   X   X
number of                  X   X   X
homeworks                  X   X   X
                           X   X   X
                           X   X   X
                     X     X   X   X
                     X     X   X   X
             X   X   X   X   X   X   X
             -----------------------
             3   4   5   6   7   8   9   10
                         grades
```

Problem 1
Draw an NFA that accepts the language defined by the following grammar:

$S \to aaA \mid \lambda$
$A \to bbB \mid ccC$
$B \to bB \mid bC$
$C \to cC \mid S$



Problem 2
Give a right-linear grammar and left-linear grammar for the following language:

$\{b^n a b^m a : \ n \geq 2, m \geq 2\}$

Right-linear grammar:
$S \to bbA$
$A \to bA \mid abbB$
$B \to bB \mid a$

Left-linear grammar:
$S \to Aa$
$A \to Ab \mid Babb$
$B \to Bb \mid bb$