7^{th} Exercise Sheet, Set Theory of the Real Line, WS 2014/2015

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Exercise 13

1. Study Section 4, in Chapter VII of Kunen's book.
2. Study pages 223-224-225 in Kunen's book, about the connection between forcings and complete Boolean algebras.

Exercise 14

1. Let φ, ψ be formulae and $p \in \mathbb{L}$ such that $p \Vdash \varphi \vee \psi$ (where $\mathbb{L}$ is the Laver forcing). Show that there exists $q \leq_0 p$ such that either $q \Vdash \varphi$ or $q \Vdash \psi$. (Hint: look at lemma 28.19, page 566, in Jech's book.)
2. Let $\mathbb{B} := \{T \subseteq 2^{<\omega} : T \text{ is a tree } \wedge [T] \text{ has strictly positive measure}\}$, ordered by inclusion. $\mathbb{B}$ is called *random forcing*. Show that $\mathbb{B}$ satisfies ccc and is ω^ω-bounding. (Hint for the latter: look at lemma 3.1.2, page 100, in [BJ95]).