



Die Hausaufgaben müssen von jedem Studierenden einzeln bearbeitet und abgegeben werden.

Für die Hausaufgabe sind die aktuellen Informationen vom Blog zu berücksichtigen

(<http://seblog.cs.uni-kassel.de/category/current-term/pmws1516/>).

Diese Hausaufgabe gibt **100 Punkte**.

## Aufgabe 1 - Abstrakt vs. Konkret (100P)



Abbildung 1: Wimmelbild

1. Legen Sie ein Eclipse Projekt an mit dem Namen PMWS1516-ihre Matrikelnummer. Dieses Projekt wie in der Uebung gezeigt in ihr persönliches Git Repository pushen. Im Projekt werden textuelle Abgaben im Ordner docs/ha1/abgabe.txt gespeichert (anlegen!).
2. Erstellen Sie eine Tabelle mit den Spalten „Abstrakt“ und „Konkret“. Finden Sie mindestens 5 Beispielpaare aus Abbildung 1 und tragen Sie diese in die Tabelle ein.
3. Auf Basis der ersten Teilaufgabe, erstellen Sie Definitionen für „Abstrakt“, „Konkret“ und „Beispiel“.

## Vorbereitung

Innerhalb der Veranstaltung Programmiermethodik werden die Hausaufgaben zum Großteil an Hand eines Spieles aufgebaut. Dieses Semester handelt es sich hierbei um das Brettspiel „Risiko“. Die verbindlichen Spielregeln sind im Blog zur Vorlesung unter <http://seblog.cs.uni-kassel.de/category/currentterm/pmws1516/> zu finden.

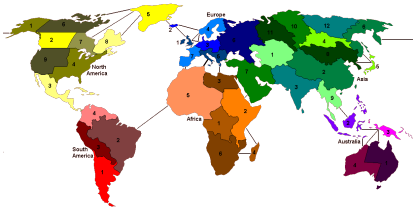


Abbildung 2: Risk Board



Abbildung 3: Risk

Machen Sie sich mit den Regeln vertraut!

There are three main phases to a player's turn: getting and placing new armies, attacking, and fortifying.

### 1. Getting and placing new armies

Players draft new armies and then distribute these pieces to any of their territories at the beginning of their turn. The number of armies a player may draft hinges upon two factors: number of territories owned; continent bonus(es).

To calculate the number of armies drafted for number of territories owned, players divide their total number of territories by three and round down to the nearest integer. If this result is less than three, round up to three armies. Players also receive bonus armies for occupying an entire continent. The player places these armies on any of his territories. If a player owns one or more of the territories depicted on the set of turned in cards, the player may choose one of these territories to be awarded two additional armies that must be placed in that territory.

## 2. **Attacking**

When it is a player's turn to attack, the player can only attack territories that are adjacent to or connected by a sea-lane to a territory already held. A battle's outcome is decided by rolling dice. The attacking player attacks with an army, rolling up to three dice. At least one unit must remain behind in the attacking territory not involved in the attack, as a territory may never be left unoccupied. Before the attacker rolls, the defender must resist the attack with either one or two armies by rolling one or two dice. Each player's highest die is compared, as is their second-highest die (if both players roll more than one). In each comparison, the highest number wins. The defender wins in the event of a tie. With each dice comparison, the loser removes one army from his territory from the game board. Any extra dice are disregarded and do not affect the results.

If an attack eliminates the final defending army within a territory, the attacker then must occupy the newly conquered territory with at least the number of attacking armies used in the last round of attack. There is no limit to the total number of additional armies that may be sent in to occupy, providing at least one army remains behind in the original attacking territory. Players may attack any number of territories any number of times before yielding the turn to the next player. Attacking is optional; a player may decline to attack at all during the turn.

## 3. **Fortifying**

When finished attacking and before passing the turn over to the next player, a player has the option to maneuver any number of armies from a single territory occupied by the player into an adjacent territory occupied by the same player. This is sometimes referred to as a "free move". Under an alternate rule, the maneuvering armies may travel through as many territories to their final destination as desired, providing that all involved pass-through territories are connected and occupied by that same player. As always, at least one army must be left in the originating territory. However, the player can only distribute between two territories.

Play then proceeds clockwise to the next player.