User Manual

1. Overview

Jungle Game is a turn-based strategy game played through a console interface. Players interact exclusively via text commands. Every action is triggered by typing a command and pressing Enter. This manual explains all accepted commands, their syntax, expected outputs, and how to handle invalid inputs so you can play confidently.

2. Launching the Program

Download the executable `JungleGame.jar` (located in the project root). Place it in a empty folder. Run the following command inside a terminal opened in the same directory:

```
java -jar JungleGame.jar
```

The console displays:

```
Welcome to Jungle Game v1.0!

Main Menu
>
```

All subsequent commands must be typed at this prompt (`>`). Commands are case-insensitive unless otherwise noted.

3. Main Menu Commands

Command	Format	Description
`startNewGame`	`startNewGame`	Starts a fresh game with the default board, pieces, and rules.
`loadGame`	`loadGame`	Opens the archive selector so you can continue a previously saved game.
`watchReplay`	`watchReplay`	Opens the replay viewer, allowing you to step through recorded matches.
`exit`	`exit`	Quits the program immediately.

- **Invalid command behavior**: If the input is empty or unrecognized, the program responds with `Invalid command` and reprints the prompt without changing game state.
- **Too many parameters**: If you accidentally add extra tokens (e.g., `startNewGame now`), the program responds with `Too many arguments, please enter again`.

4. In-Game Commands

After starting or loading a game, you enter gameplay mode. The prompt indicates whose turn it is, and you must use the commands below.

4.1 Movement Commands

Use the following format to move a piece:

```
PIECENAME DIRECTION
```

- **PIECENAME** must be one of: `rat`, `cat`, `dog`, `wolf`, `leopard`, `tiger`, `lion`, `elephant`.
- **DIRECTION** must be one of: `U` (up), `D` (down), `L` (left), `R` (right).
  Example: `tiger R`

If the move is legal, the board updates and a message like `tiger : (A, 1) -> (A, 2)` prints. If the move is illegal (e.g., moving off-board, entering river illegally, violating trap rules), the game prints the reason such as `You can not place move this piece to a river matrix!`, `Your move out of the board!`, or `You can not capture target piece!`. The turn does not advance until a legal move is made.

4.2 Withdraw Command

`withdraw`

Undoes the last move(s) according to rule limits (each player may withdraw up to three times). The console confirms with `lowerPlayer +Withdraw`.

Note that you can only do this command on your own turn.

4.3 Saving

`saveGame filename`

- Saves the current match under `archive/filename.jungle`.

`saveReplay filename`

- Saves the current replay buffer to `replay/filename.replay`.

Note

- Filenames should be alphanumeric without spaces, you may also use `-`.
- Successful saves overwrite existing files with the same name. Invalid filenames result in an explanatory error.

4.5 Closing a Game Session Without Saving

`close` Returns to the main menu without saving. Unsaved progress is lost.

5. Replays

During `watchReplay`, commands appear at the replay prompt:

- `next`: advance to the next recorded state.
- `prev`: go back one state.
- `exit`: leave replay mode and return to the menu.

6. Loading Games and Replays

When `loadGame` or `watchReplay` is issued, the system lists available files. You typically navigate by entering the name shown. If a file is missing or corrupted, the game prints an error (e.g., `Cannot load archive`). After a successful load, gameplay or replay mode begins immediately, following the same command rules listed earlier.

7. Output Interpretation

- **Move Logs**: Lines such as `rat : (G, 3) -> (F, 3)` indicate piece, origin coordinate, and destination. Symbols `+` or `-` may appear to show piece placement/removal after specific moves.
- **Validation Messages**: The engine prints descriptive error strings whenever a rule is violated. Treat these as guidance for legal moves.
- **Withdraw Notices**: `lowerPlayer +Withdraw` indicates a withdrawal by the lower-side player; `-Withdraw` indicates the action has been revoked, which only happens in replay.
- **Endgame**: When a player wins (e.g., by entering the opponent’s den), the console prints the winner (`upperPlayer`, `lowerPlayer`) and exits to the main menu. The system will automatically generate the replay file for you.

8. Handling Invalid Input

- Empty input or whitespace is ignored.
- Unknown commands yield `Invalid command`.
- Commands with incorrect token counts (extra parameters) trigger `Too many arguments` warnings.
- Illegal in-game moves display specific rule explanations without advancing the turn.

9. Best Practices for Effective Play

1. **Plan Moves**: Remember piece strengths (elephant beats all except rats, rats can attack elephants only from adjacent squares or in rivers).
2. **Use Withdraw Sparingly**: Each player has 3 withdraws. Track usage carefully.
3. **Replay for Learning**: `watchReplay` helps analyze games. Combine `next`/`prev` commands to review tactics and mistakes.

10. Troubleshooting

- **No Response After Command**: Ensure you pressed Enter. The program might be waiting for further input if the prompt (`>`) doesn't reappear.
- **Repeated Error Messages**: Read the exact message (e.g., “You can not move in your den”) and adjust moves accordingly.
- **Corrupted Save/Replays**: Delete the problematic file from `archive/` or `replay/` and create a fresh save.