# Ski-Lookup — Simple Guide

## What Is Ski-Lookup?

Ski-Lookup is like a smart snow assistant for ski lovers! It helps you find the best ski resorts based on real snow and weather data — things like how much fresh snow has fallen, how deep the snow is, and how cold or windy it is.  
  
It works on your computer’s command line (that’s a text screen where you type instructions instead of clicking). Even though it sounds technical, it’s really just a tool that collects weather info, does some smart math, and shows you which ski spots have the best conditions for your trip.

## What Does It Actually Do?

Imagine you want to go skiing. You could:  
- Check where it’s been snowing the most  
- See which places have the best weather  
- Pick your favorite spot based on what you like (more snow, less wind, or warmer temperatures)  
  
Ski-Lookup helps you do all that automatically.  
  
It:  
1. Downloads the latest snow and weather data.  
2. Cleans and organizes the information.  
3. Calculates how much new snow has fallen each day.  
4. Scores ski resorts so you can compare them easily.  
5. Shows reports and fun charts that help you decide where to go.

## How It’s Built

Inside the program, there are small parts (we call them 'files') that each have a special job:  
- bin/dach\_resort\_advisor → This is the 'starter switch.' It sets things up and starts the program.  
- src/SkiLookup.jl → The main brain of Ski-Lookup.  
- src/cli.jl → Handles the commands you type.  
- src/menu.jl → Shows you the menu to pick what you want to do.  
- src/reporting.jl → Makes reports and tables that show snow and weather results.  
- src/transforms.jl → Prepares and cleans up the weather data.  
- src/weights.jl → Decides how important each factor (like snow or wind) should be.  
- src/utils.jl → Little helper tools that make everything else easier.  
- src/localization.jl → Handles languages (English, German, etc.).  
- test/runtests.jl → Tests to make sure everything works correctly.

## How to Use It

You 'talk' to Ski-Lookup by typing commands.  
  
Here are some examples you could type after opening your command window:  
- menu → Opens an interactive menu where you can choose what to do.  
- report → Runs the full report one time and shows the best resorts.  
- list → Lists all known regions.  
- region "Zermatt" → Shows detailed info just for Zermatt.  
  
It’s like asking the program questions, and it gives you answers about ski conditions.

## How It Handles the Data

Behind the scenes, Ski-Lookup:  
1. Finds and downloads the snow data (only once — it saves it for next time).  
2. Fixes the data so it’s clean and readable.  
3. Figures out how much new snow fell.  
4. Filters the data to show only what you care about (like a certain country or date).  
5. Translates country names so everything looks nice and tidy.

## How the Scoring Works

Each resort gets a score based on five main things:  
1. Fresh snow  
2. Snow depth  
3. Temperature  
4. Precipitation (rain/snowfall)  
5. Wind  
  
Each of these things has a 'weight' — like points for how much they matter to you. For example:  
- Powder lovers might give more weight to fresh snow.  
- Families might prefer less wind and warmer days.  
  
Ski-Lookup automatically balances the numbers so the total is 100%. You can also adjust these yourself.

## Languages and Speech

Ski-Lookup speaks English and German. You can choose your language, or it will pick one automatically.  
  
It can even work with speech commands, so you could talk to it instead of typing (if your computer supports it).

## Testing (For Developers)

Even though you don’t need to worry about this as a user, the creators made sure Ski-Lookup works perfectly by writing tests.  
  
To check that everything still works, you can run:  
julia --project=. test/runtests.jl  
  
This checks things like:  
- Does the program clean the data correctly?  
- Are the averages right?  
- Are weights balanced?  
- Do 'yes' and 'no' answers work properly?  
  
Think of it like a check-up for the program to make sure it’s healthy.

## Adding New Stuff

Developers can:  
- Add new weather datasets  
- Add new countries or regions  
- Support more languages  
- Build a different front-end (like a web version or app)  
  
But if you’re just using it — you don’t need to touch any of that!

## Data and Credits

The data Ski-Lookup uses comes from scientists (Schmucki, Marty, Fierz, and Lehning, 2021) who collected it for research. It’s shared under a Creative Commons license, which means anyone can use it for learning or fun — but not for selling.

## In Short

Ski-Lookup is like a weather wizard for skiers. It collects real data, makes smart comparisons, and tells you where the snow is best. Whether you want deep powder or sunny slopes — Ski-Lookup helps you plan your perfect ski day!