

Self study note

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Chapter 1

- `.Call()`
- SEXP pointer to S expression type
- `Rcpp::as<int>` converts the incoming argument from SEXP to integer.
- `Rcpp::wrap()` converts the result to SEXP type returned by a function used with `.Call()`.
- `inline` package provides complete wrappers for *compilation*, *linking*, and *loading* steps.
 - `cxxfunction()`
 - * `sig` signature (input variables) of the function
 - * `body` C++ codes to include/compiled; wrap with “...”
 - * `plugin` Rcpp or others
 - * `include` pure C++ function to pass through
- `compiler` package compile regular R codes with `cmpfun` function.

Chapter 2

- To compile, link, and load:
 - R CMD SHLIB triggers `g++`
 - `dyn.load` to load the generated `.so` file
 - `.Call()` to call the C/C++ file that’s made available
- `cxxfunction` with `rcpp` plugin reduce to `rcpp` function
- Add `LinkingTo: Rcpp` in `DESCRIPTION` when including it in a package.
- Usage of `Rcpp` via `inline` is portable as R itself.
- Adding `verbose=TRUE` in `cxxfunction` or `rcpp` shows both the temporary file created by `cxxfunction()` and the invocations by R CMD SHLIB.
- Use `include=` in `cxxfunction` to reduce the number of operator needed.