TMB-IDE

current status & road ahead

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ADMB/TMB Developer Workshop

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TMB-IDE

Emacs `tmb-mode` without the Emacs
Version 1.6-2 (2015-10-28)

TMB-IDE

Background

overview, components, history

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Current status

three flavors: mode, ide, virtual

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Road ahead

different from admb-ide, easy to maintain

Overview

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2. Efficient and **full-featured environment** to develop TMB models

   This is an easier objective.

Components

TMB

R package + stuff

Components

TMB

R package + stuff

GCC

compiler

GDB

debugger

Components

TMB
: R package + stuff

GCC
: compiler

GDB
: debugger

Emacs
: editor framework

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Emacs

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TMB Mode

syntax colors

commands

- build
- run
- view
- template
- window layout

Three alternative environments

TMB Mode

Lightweight Emacs mode to develop TMB models

Designed for users who already use Emacs as their main editor

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Virtual TMB

Fully configured virtual machine

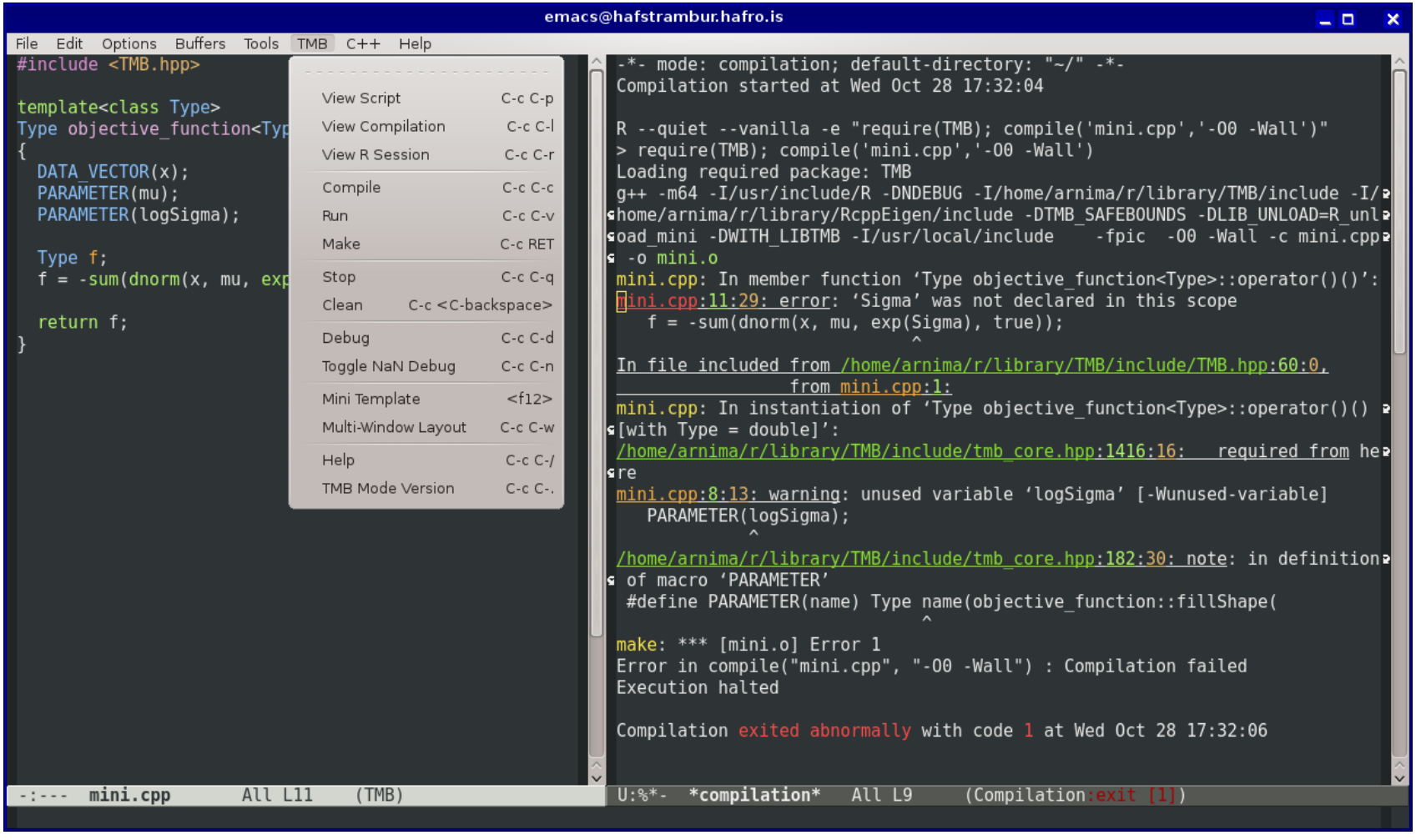
VirtualBox disk that can be installed on any computer

VirtualTMB.vdi (6 GB)

First and current release

	TMB Mode	TMB-IDE	Virtual TMB
2015 Sep	1.0	1.1	1.1
2015 Oct		1.6	1.6
2015 Nov	3.1		

TMB Mode



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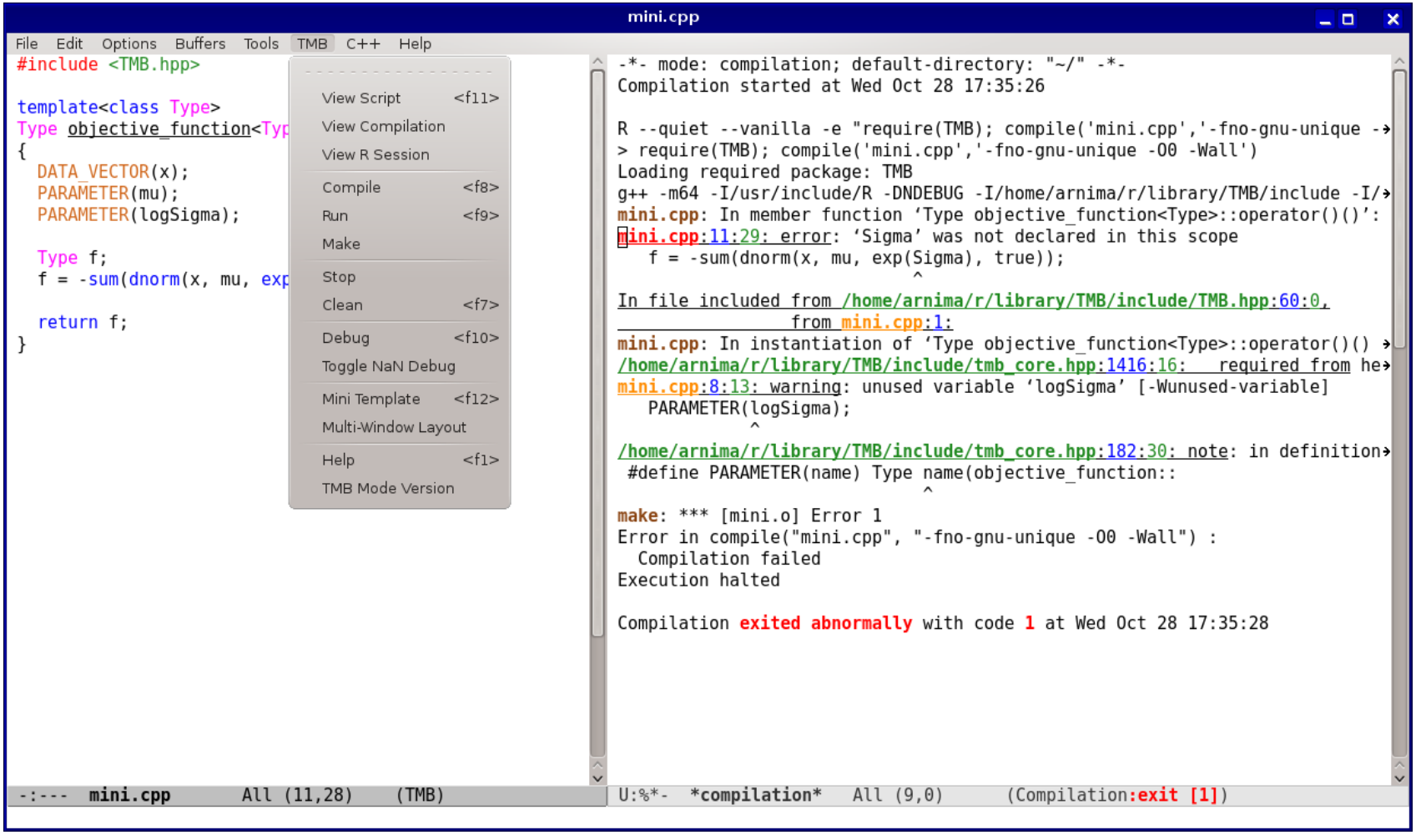
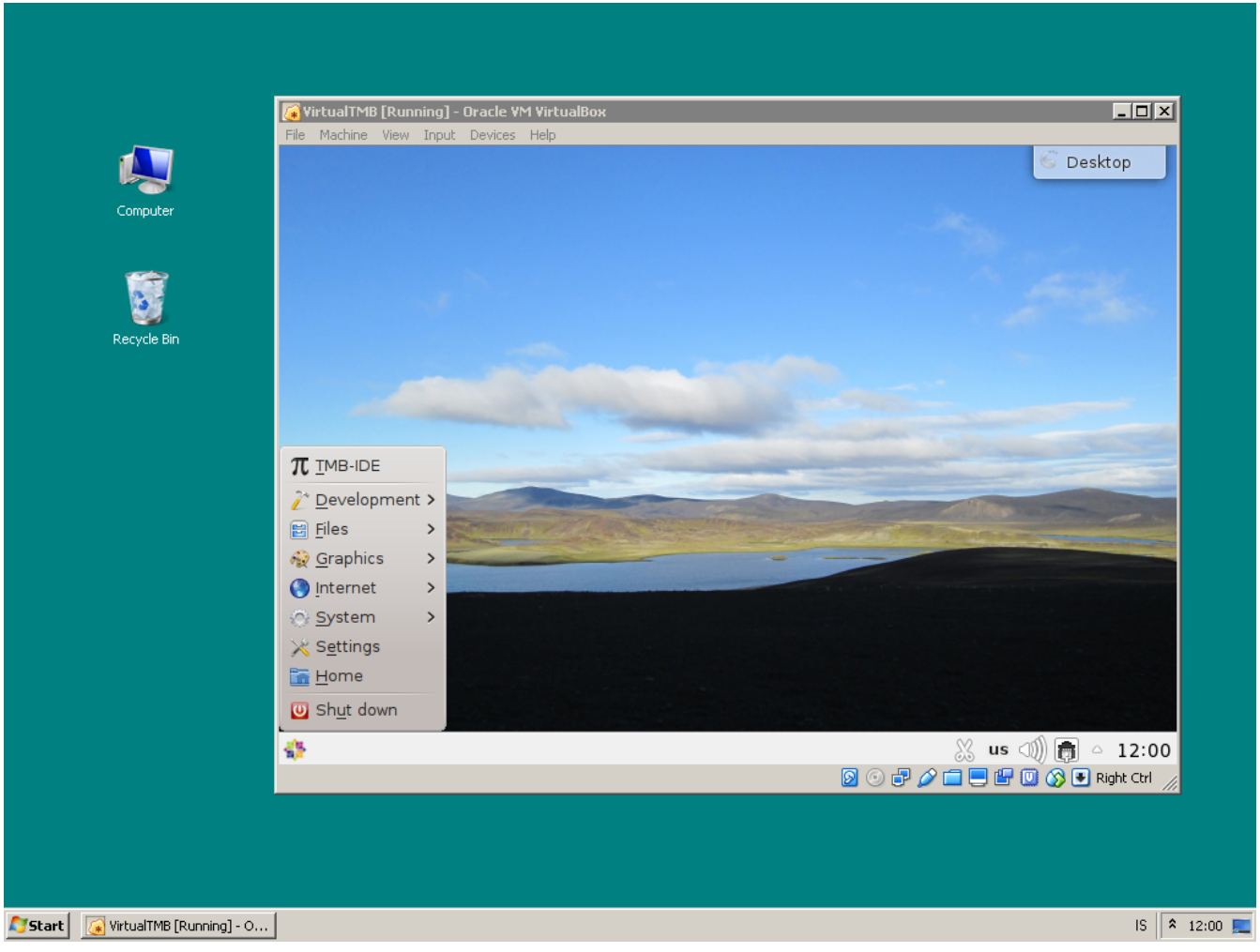


.emacs (5 KB)

Virtual TMB



VirtualTMB.vdi (6 GB)

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TMB-IDE

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Virtual TMB

Analogous to ADMB-IDE, but a virtual machine (6 GB) instead of an installer (0.2 GB)

Quick to start a workshop, practical introduction to Linux, but requires maintenance and learning from the user

Different from ADMB-IDE

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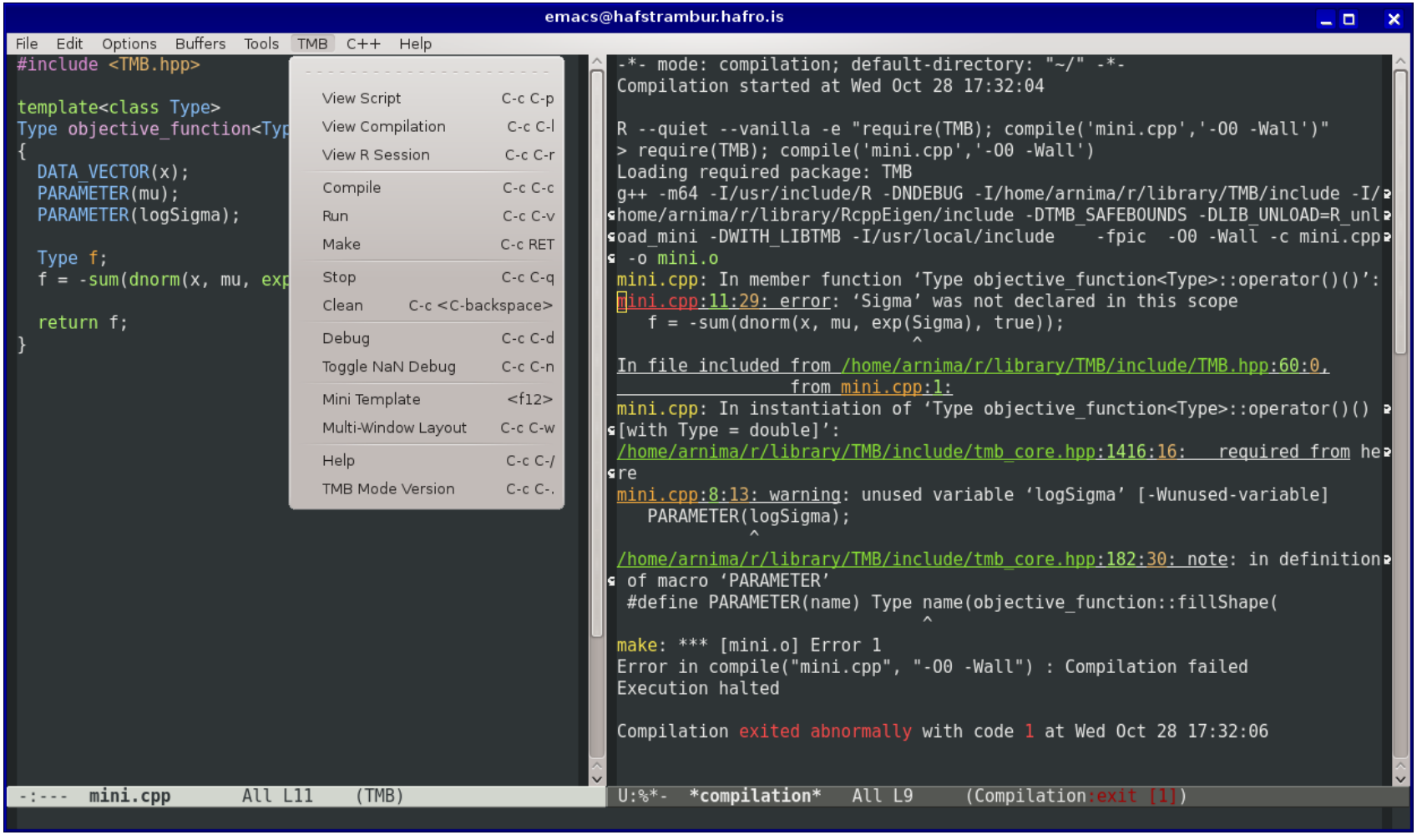
It's what Kasper and most of the core TMB developers are using


emacs@hafstrambur.hafro.is
File Edit Options Buffers Tools TMB C++ Help
#include <TMB.hpp>
template<class Type>
Type objective_function<Typ
{
DATA_VECTOR(x);
PARAMETER(mu);
PARAMETER(logSigma);
Type f;
f = -sum(dnorm(x, mu, exp
return f;
}
View Script C-c C-p
View Compilation C-c C-l
View R Session C-c C-r
Compile C-c C-c
Run C-c C-v
Make C-c RET
Stop C-c C-q
Clean C-c <C-backspace>
Debug C-c C-d
Toggle NaN Debug C-c C-n
Mini Template <f12>
Multi-Window Layout C-c C-w
Help C-c C-/
TMB Mode Version C-c C-.
-:--- mini.cpp All L11 (TMB)
-*- mode: compilation; default-directory: "~/" -*-
Compilation started at Wed Oct 28 17:32:04
R --quiet --vanilla -e "require(TMB); compile('mini.cpp','-O0 -Wall')"
> require(TMB); compile('mini.cpp','-O0 -Wall')
Loading required package: TMB
g++ -m64 -I/usr/include/R -DNDEBUG -I/home/arnima/r/library/TMB/include -I/home/arnima/r/library/RcppEigen/include -DTMB_SAFEBOUNDS -DLIB_UNLOAD=R_unload_mini -DWITH_LIBTMB -I/usr/local/include -fpic -O0 -Wall -c mini.cpp -o mini.o
mini.cpp: In member function 'Type objective_function<Type>::operator()()':
mini.cpp:11:29: error: 'Sigma' was not declared in this scope
f = -sum(dnorm(x, mu, exp(Sigma), true));
In file included from /home/arnima/r/library/TMB/include/TMB.hpp:60:0,
from mini.cpp:1:
mini.cpp: In instantiation of 'Type objective_function<Type>::operator()() [with Type = double]':
/home/arnima/r/library/TMB/include/tmb_core.hpp:1416:16: required from here
mini.cpp:8:13: warning: unused variable 'logSigma' [-Wunused-variable]
PARAMETER(logSigma);
/home/arnima/r/library/TMB/include/tmb_core.hpp:182:30: note: in definition of macro 'PARAMETER'
#define PARAMETER(name) Type name(objective_function::fillShape(
make: *** [mini.o] Error 1
Error in compile("mini.cpp", "-O0 -Wall") : Compilation failed
Execution halted
Compilation exited abnormally with code 1 at Wed Oct 28 17:32:06
U:%*- *compilation* All L9 (Compilation:exit [1])

Easy to maintain

Not a big bundle, just three files to maintain:

1. `tmb.el`

   Relatively frequent updates

2. `.emacs`

   Occasional updates, paired with a particular version of `tmb.el`

3. `VirtualTMB.vdi`

   Rarely updated – mainly useful for experimenting, improving performance on a Windows computer, and as a last resort on computers with a restricted user account

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also linked from

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