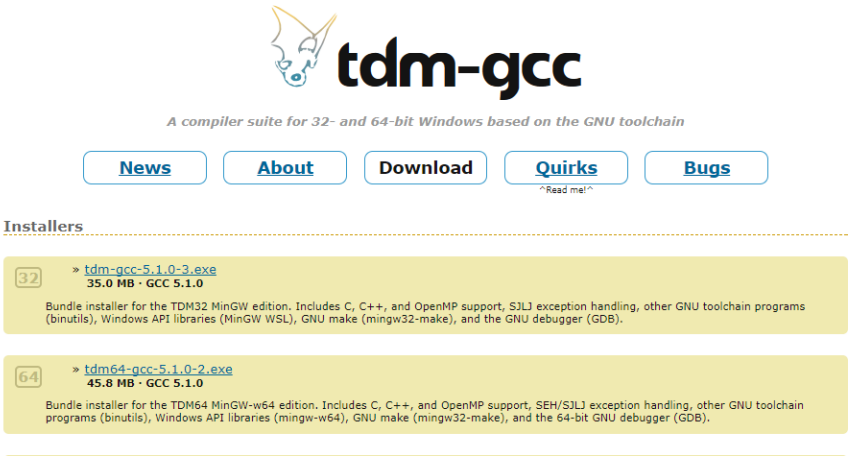
OpenMP

OpenMP (http://www.openmp.org/) enables parallel computing on single computer by taking advantage of the multiple cores shipped on modern CPUs .

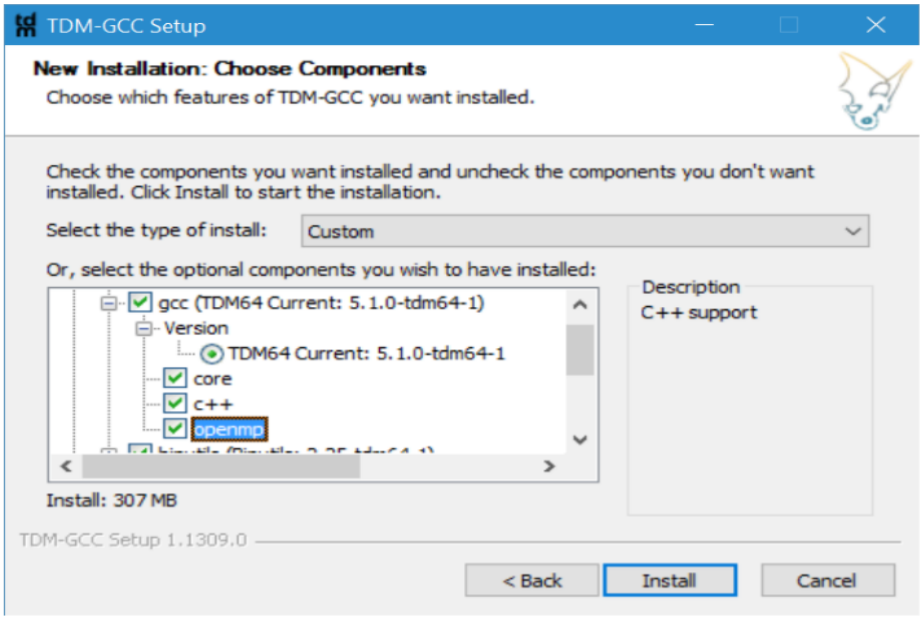
Windows

1. Go to http://tdm-gcc.tdragon.net/. Download TDM_GCC.



2. Uncheck the box “Check for updated files on the TDM-GCC server” and click “Create”.

3. Click “Next” to see the installation setup. Check the box “openmp” under “gcc”.



4. Now, you can use `gcc -fopenmp` to run OpenMP on you PC.

Mac OS X

Use Homebrew to build the GNU Compiler Collection (GCC) on a Mac.

1. Install GCC with brew. In Terminal, type in the following command:

   `brew install gcc- --without-multilib`

   If you have installed GCC before on your Mac, then type in the following command to reinstall it:

   `brew reinstall gcc- --without-multilib`

2. Add path to your system. In Terminal, type in the following command:

   `PATH=/usr/local/bin:$PATH`

3. Now, you can compile programs with OpenMP support using `gcc-7 -fopenmp`. You can test with a C file. In Terminal, type in the following command. Please note that gcc-7 is the version I have installed, yours might differ.

   `gcc-7 –fopenmp –o test test.c`

   Below is an example of test.c file.

```c
#include <omp.h>
#include <stdio.h>

int main(void) {
    #pragma omp parallel
    printf("thread %d\n", omp_get_thread_num());
}
```

Reference

Please refer to the following webpage for more information about installation OpenMP on Mac.

1. https://clang-omp.github.io

2. http://openmp.llvm.org

3. http://thecoatlessprofessor.com/programming/openmp-in-r-on-os-x/