

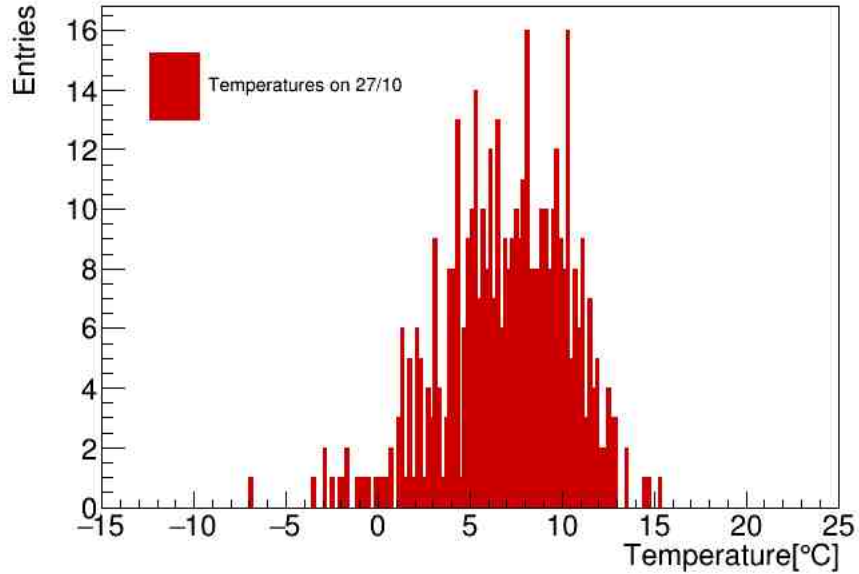
# MNXB01 Final Project: Group G

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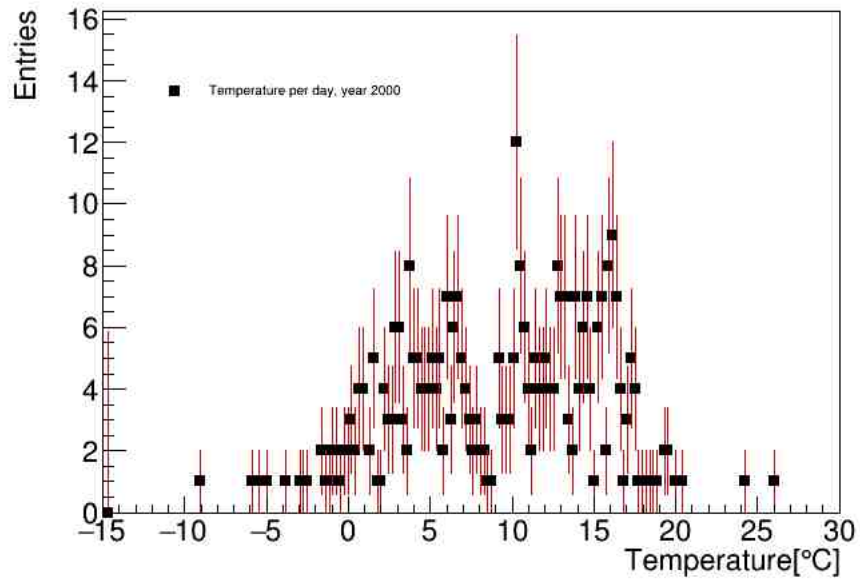
We chose to draw histograms on the temperature dataset of Lund, we used three different functions to get different results. Two of them tempOnDay and tempPerDay were suggested in the project instructions, and the third one tempPerMonth was our own idea. To clean up the data file we used a bash script. Each line of the cleaned data set was then added to a vector in the tempTrender class where it could then be accessed by the member functions mentioned above.

## 1 Temperature On Day



The histogram shows the entries of all temperatures measured on the 27th of October from year 1863 to 2020. The histogram was created using the tempOnDay function which iterates through the data and adds an entry to the histogram every time the day and month matched with the requested date.

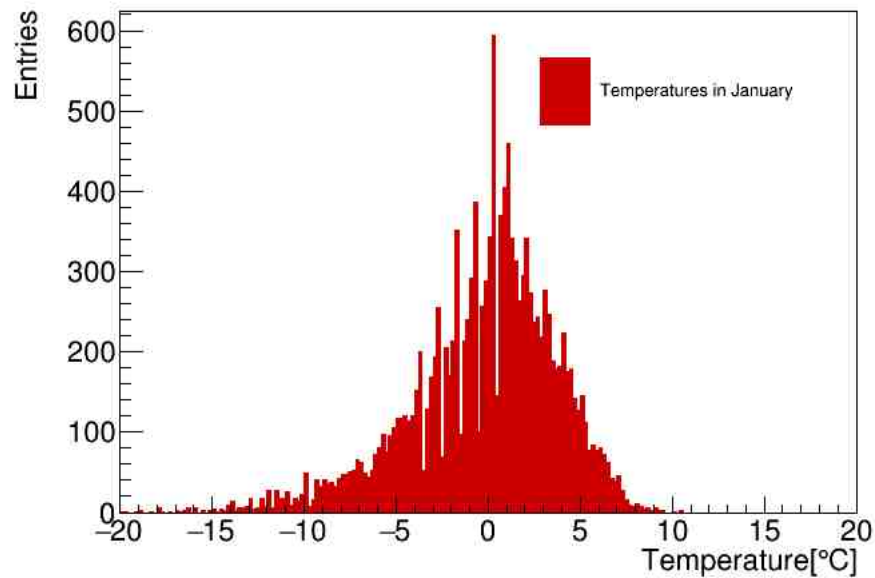
## 2 Temperature Per Day



The mean temperature of everyday of the year with error bars. This is one of the examples given to implement the tempPerDay function.

To do this, we made sure to sort the dates in the dataset in non-decreasing order and iterated through to collect the mean temperatures of each day in a given year. For example, given the year 2000, we iterated through all the dates from the beginning collecting the sum and the number of entries until the day changed and calculated the mean from there. We then filled the histogram with those values and included the error bar too.

### 3 Temperature Per Month



This example was our own idea because it is nice to see the mean temperature of a certain month in every year instead of the day as temperatures tend to fluctuate more in a month.

For this, we also iterated through in a similar manner as temp per day but we calculated the mean for a month instead.

### 4 Learnings

Throughout this process we learned a lot from our mistakes.

Firstly, it was important for us to have an initial meeting to go over how to run everything and set up the structure of the repository. For instance, reorganize the header files, fix the hierarchy, and start the GitHub. It was easier to work together and do this on one person's computer because we encountered a lot of issues when trying to get started.

After this, we divided up histograms and each coded one of them to have a different perspective on how to do this.