

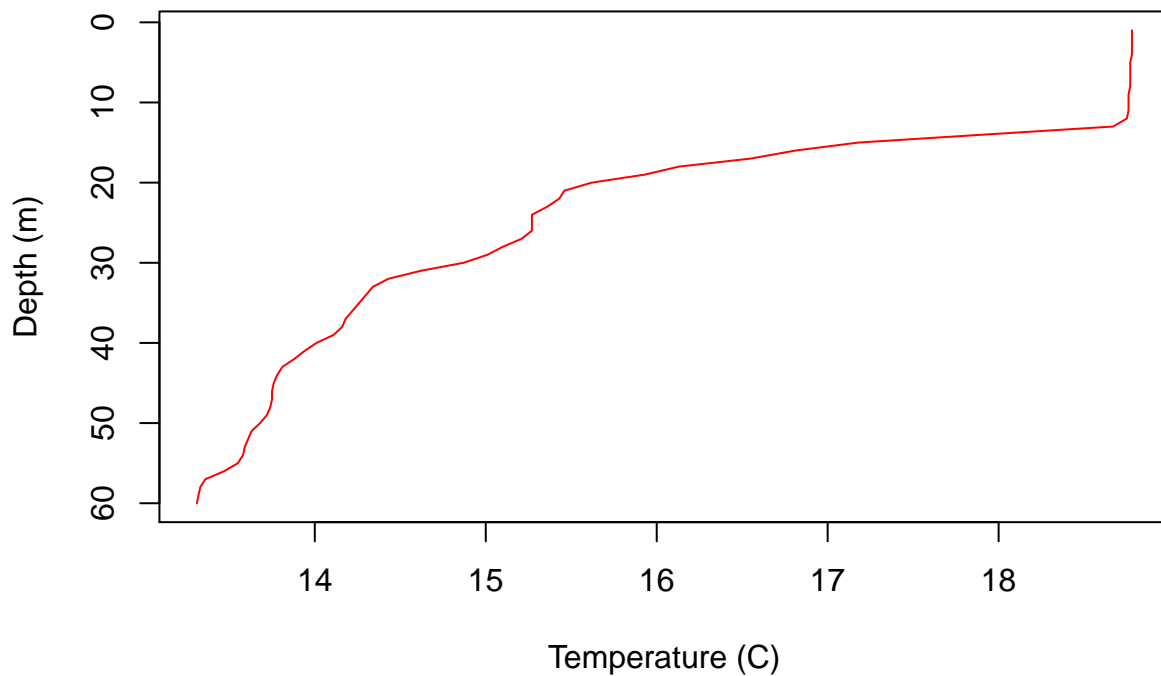
# SIOB 296 Introduction to Programming with R

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Answer all questions in a script (.R) file. Use comments (# or #').

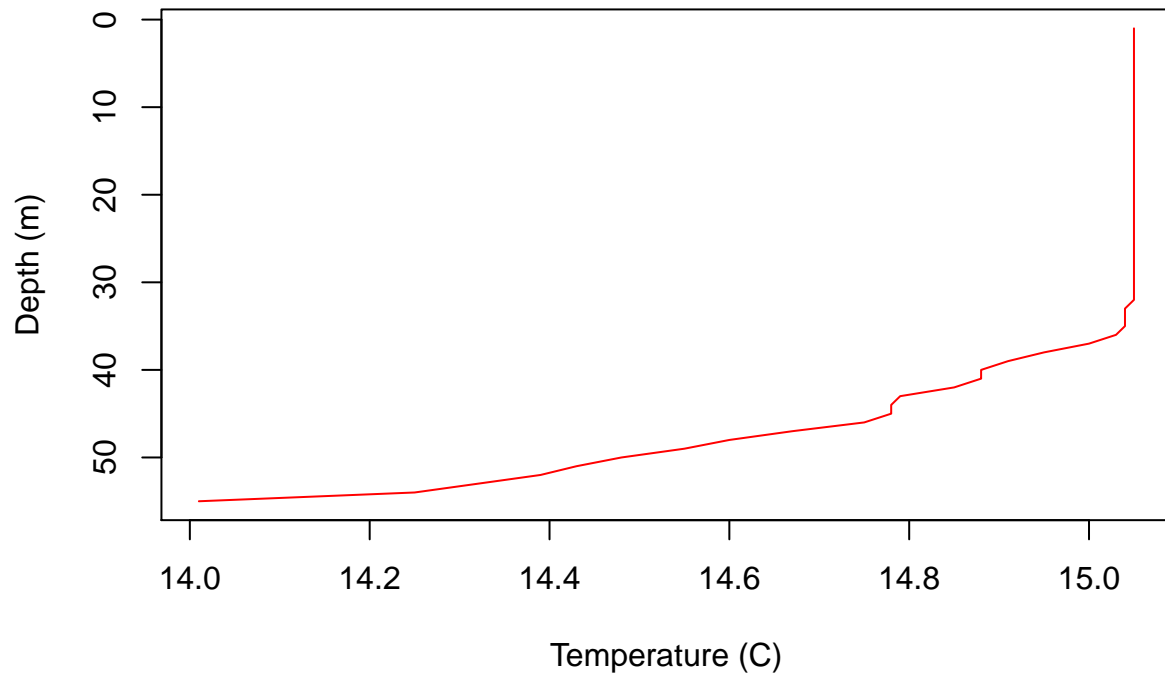
1. Use the CTD data for Station 1 on 2012-11-08 to create the following contour plot of temperature with depth.



2. Create a function that produces the above plot for a cast from any station and date. It should issue an error (see ?stop) if a cast for the given combination can't be found.

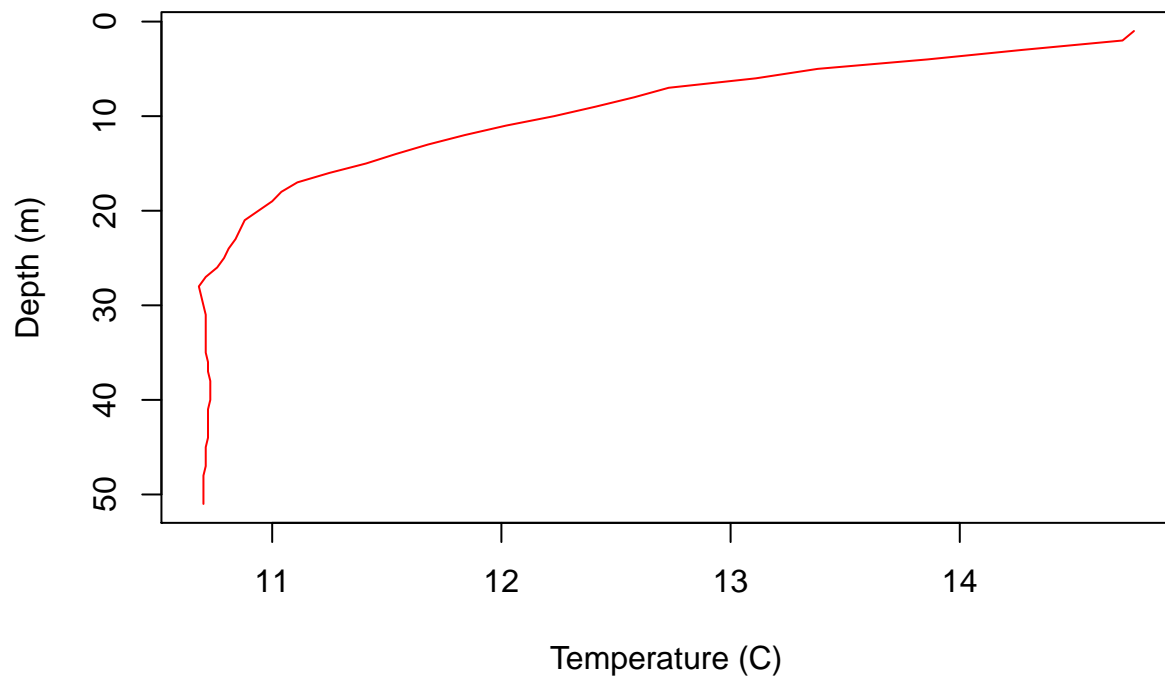
```
plotTemp("Station.28", "2010-01-07", ctd)
```

### Station.28 : 2010-01-07



```
plotTemp("Station.7", "2010-03-17", ctd)
```

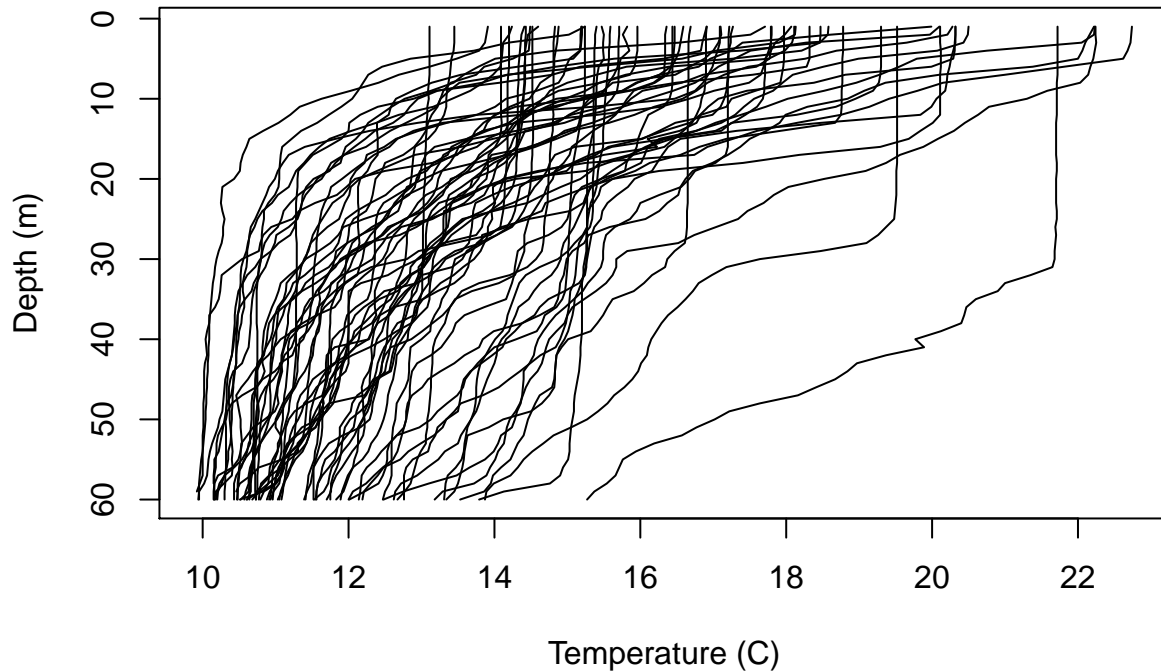
### Station.7 : 2010-03-17



```
plotTemp("Station.37", "2010-01-05", ctd)
```

Error in plotTemp("Station.37", "2010-01-05", ctd): Sorry, that cast can't be found.

3. Create the following plot which overlays temperature traces for all casts at Station.1. A hint is to first clear the graphics window with `plot.new`, then set up coordinates of the right size with `plot.window`. You will also need to use the `for` function.



4. Color the lines in #3 based on season: Winter = Dec-Feb (blue), Spring = Mar-May (green), Summer = Jun-Aug (red), Fall = Sep-Nov (orange).

