# Notes on the function, gsw_t_from_pt0(SA, pt0, p), which evaluates *in situ* temperature, *t*, from potential temperature, pt0, with reference sea pressure of 0 dbar.

This function, **gsw_t_from_pt0**(SA,pt0,p), calculates the *in situ* temperature $t$ at pressure $p$ and Absolute Salinity $S_A$ given the potential temperature $\theta$ (the usual potential temperature which has reference sea pressure of zero dbar). The code is simply the following two lines,

```
p0 = zeros(size(SA));
t = gsw_pt_from_t(SA,pt0,p0,p);
```

That is, this code is simply the standard code for calculating potential temperature, **gsw_pt_from_t**, but now the input "bottle" has temperature pt0 at pressure $0$ dbar, while the last argument (which is the reference pressure in the usual call to **gsw_pt_from_t**) is now the *in situ* pressure $p$ at which the *in situ* temperature, $t$, is required.