```
%The values are in SI units and Q(or H) has to be per unit mole
[no_iter, T] =
 Cal_T(3.578,3.020*(10^-3),0,-0.186*(10^5),530,36360, ...
    0.0001,10000)


function [no_iter, T] =  Cal_T(a,b,c,d,T0,Q,max_err,max_iter)
    no_iter =0;
    err = 1/0;
    tou_new = 0;
    tou_ini = 1;
    R = 8.314;
    while err>=max_err
        CP = (a + (b/2)*T0*(tou_ini+1)+c/3*(T0^2)*(tou_ini^2+tou_ini
+1) ...
            +d/(tou_ini*(T0^2)))*R;
        tou_new = 1 + Q/(CP*T0);
        err = abs(tou_new-tou_ini);
        tou_ini = tou_new;
        no_iter = no_iter + 1;
        if no_iter == max_iter
            break
        end
    end
    T = T0 * tou_new;
end
```

```
no_iter =

     7


T =

   1.2339e+03
```

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