Stack Frame Example: Quadratic expression evaluation

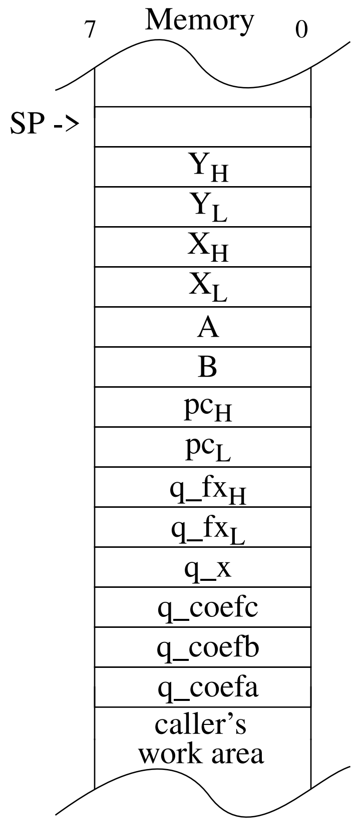
Write a subroutine to evaluate $f(x) = ax^2 + bx + c$. a,b,c,x are parameters and the result f(x) will be returned. The pseudocode for the call is

```
fx = quadratic(a,b,c,x)
```

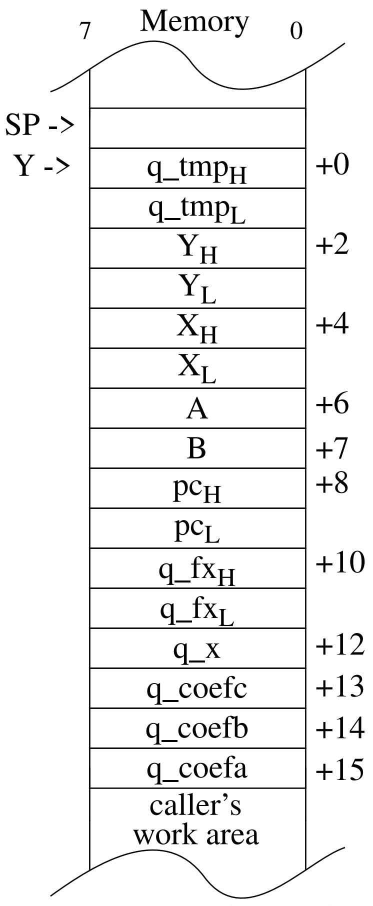
Choose some symbolic names for the variables we will use:

coefficients a, b, c will be called:
`q_coefa; q_coefb; q_coefc;`
the variable x will be called:
`q_x;`
and the result f(x) will be called
`w_fx`

Next, we plan how the stack will look:



stack plan



stack plan after writing subroutine

We also need to figure out how our local variables will look, so we write the subroutine (see `quadr.asm`), discover how many local variables we need (in this case one, "q_tmp"), put the local variable(s) into the stack plan and assign the stack frame and stack offsets, which then get put back in the subroutine.