

```
h {                                /* Synchronous version */
    y = f(x);                       /* Call f (potentially blocking) */
    z = g(y);                       /* Use the result from f to call g */
    q += z;                         /* Use the value of z to update q */
    return;
}
```

**(a)**

```
h1 {                                /* Asynchronous version */
    allocate global variables y, z, and q;
    establish cbf1 as the callback function for f1;
    establish cbg1 as the callback function for g1;
    Start f1(x) with a nonblocking call;
    return;
}
```

```
function cbf1(retval) {           /* Callback function for f1 */
    y = retval;
    start g1(y) with a nonblocking call;
    return;
}
```

```
function cbg1(retval) {           /* Callback function for g1 */
    z = retval;
    q += z;
    return;
}
```

**(b)**