

CS1520 Practical 2 - solutions

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Listing 1: quadratic.asm

```
.global main @ mark this as the entry
main:        @ point of the program
@ calculate  $A = x^2 + 2axy + y^2$ 

mov r10, #2   @ x
mov r11, #3   @ y
mov r12, #4   @ a

mov r0, r10   @ r0 = x
mul r0, r10   @ r0 =  $x^2$ 

mov r1, #2    @ r1 = 2
mul r1, r10   @ r1 =  $2*x$ 
mul r1, r11   @ r1 =  $2*x*y$ 
mul r1, r12   @ r1 =  $2*x*y*a$ 

mov r2, r11   @ r2 = y
mul r2, r11   @ r2 =  $y^2$ 

add r0, r1    @ r0 =  $x^2 + 2axy$ 
add r0, r2    @ r0 =  $x^2 + 2axy + y^2$ 

mov r7, #1    @ make the system call
svc #0        @ to exit the program
.end
```