Question 2 (10 points):

```
00 void map(int *V, int k){
01      int *p; /* p at SP+12 */
          ...
24      V[*p++] = V[k];
          ..
98      }
```

For the C function above, assume that the passing of arguments to the function `map` follows the standard RISC-V convention (`V` is in `a0`, and `k` is in `a1`) and that the local variable `p` is stored in the frame of the function `map` at the address given by `SP+12`. Write a sequence of RISC-V instructions that implements the statement in line 24 of this function.

```
slli t0, a1, 2  # t0 <- 4*k
add  t1, a0, t0 # t1 <- Address of V[k]
lw   t2, 0(t1)  # t2 <- V[k]
lw   t3, 12(sp) # t3 <- p
lw   t4, 0(t3)  # t4 <- *p
addi t5, t3, 4  # t5 <- p++
sw   t5, 12(sp) # store p++
slli t6, t4, 2  # t6 <- 4*(*p)
add  t7, a0, t6 # address of V[*p]
sw   t2, 0(t7)  # V[*p] <- V[k]
```