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1.
```
sub $s1, $s1, $s2
addi $s0, $s1, 15
```

2. $t0 = h $t1 = i $s0 = j $s1 = k

```
while (i == 0) {          int j = 0 + 3 ; int i = 0;
    j = 0 + 3 ;           int k = 0 + 128 ;
    k = 0 + 128 ;         while (i == 0) {
    j = j + k ;               j = j + k ;
    k = k + 128 ;             k = k + 128 ;
    i = k < j ;               i = k < j ; }
    h = j - k ;           int h = j - k;
```

[The contents of $t0 or h will be 3.]

```
add $s0, $s1, $s0          add $s0, $s1, $s0
add $s6, $s6, $s0          add $s6, $s6, $s0
lw  $s6, 0($s6)            add $s6, $s6, $s6
addi $s6, $s6, 8           add $s6, $s6, $s6
sw  $s6, 8($s7)            addi $s6, $s6, 8
                           lw  $s6, 0($s6)
                           addi $s6, $s6, 8
                           sw  $s6, 32($s7)
```

3. add $s0, $s1, $s0
add $s0, $s0, $s0
add $s0, $s0, $s0
add $s6, $s6, $s0
lw $s2, 0($s6) lw $s2, 0($s6)
addi $s2, $s2, 8 addi $s2, $s2, 8
sw $s2, 32($s7) sw $s2, 32($s7)

4. $t1 = i $s2 = result $s0 = Mem Array

int i = 0;
int result = 0;
int unknown = 0;
int condition = 1;
while (condition != unknown) {
int a = Mem Array; Mem Array = Mem Array++;
result = result + a;
i = i+1;
result = result + a;
result = result + a;
result = result + a;
condition = i < 100; }

4.
```
int i = 0;   int condition = 7;
int result = 0;
int b = 0;
while (condition != b) {
  int a = MemArray;
  result = result + a;
  MemArray = MemArray + 4;
  i = i + 1;
  result = result + (3 * a);
  condition = i < 100; }
```

5.
```
    addi $t1, $0, 0
    addi, $s2, $0, 0
    addi, $s3, $0, 0
Loop: lw $s1, 0($s0)
    add $s1, $s1, $s1
    add $s1, $s1, $s1
   addi $s0, $s0, 4
  addi $t1, $t1, 1
  add $s2, $s2, $s1
   slti $t2, $t1, 100
    bne, $t2, $s3, LOOP
```