a) Rewrite the program so that step counts are introduced into the function.

```
void mult(int a[][MAX_SIZE], int b[][MAX_SIZE], int c[][MAX_SIZE])
{
  int i,j,K;
  for(i=0; i<MAX_SIZE; i++)
    count++; // count for each i in [0, MAX_SIZE-1]
    for(j=0; j<MAX_SIZE; j++)
    {
      count++; // for each j in [0, MAX_SIZE-1]

      c[i][j]=0;
      count++; // for the initialization of prod matrix
      for(K=0; K<MAX_SIZE; K++)
      {
        count++; // for each K in [0, MAX_SIZE-1]
        c[i][j]+= a[i][K] * b[K][j];
        count++; // for each unit multiplied
      }
      count++; // K=MAX_SIZE

    }
  count++; // j= MAX_SIZE

  count++; // i=MAX_SIZE

}
```

b) Simplify the resulting function by eliminating statements.

```
void mult(int a[][MAX_SIZE], int b[][MAX_SIZE], int c[][MAX_SIZE])
{
  int i,j,K;
  for(i=0; i<MAX_SIZE; i++)
  {
    count=count+2;
    for(j=0; j<MAX_SIZE; j++)
    {
      count= count+3;
      for(K=0; K<MAX_SIZE; K++)
        count=count+2;
    }
  }
  count++;
}
```

c) Determine the value of count when the function ends

$$count = 2MAX\_SIZE + 3MAX\_SIZE^2 + 2MAX\_SIZE^3 + 1$$