C to LC3 Arrays: Examine the code segments below. What are the LC3 instructions generated by a C compiler for the C code below. The symbol table is shown below...

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Type</th>
<th>Offset</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>grid</td>
<td>Int</td>
<td>-9</td>
<td>foo</td>
</tr>
<tr>
<td>x</td>
<td>Int</td>
<td>-10</td>
<td>foo</td>
</tr>
<tr>
<td>ptr</td>
<td>int</td>
<td>-11</td>
<td>foo</td>
</tr>
</tbody>
</table>

Recall: R5 is frame pointer (dynamic link), R6 is top of stack, R4 is pointer to static area.

```c
grid[6] = 5;
// set value of 5 in a register
// get address of grid[0]
// add 6 to that address
// store 5 into that address
```

```c
x = grid[3] + 1;
// get address of grid[0]
// add 3 to the address
// fetch value at grid[3]
// add 1 to it
// store into x
```

```c
grid[x+2] = grid[x] + 2;
// get value of x into register
// get address grid[0]
// and add x to it
// load value at grid[x]
// add 2 to it and store into reg
// store this value into grid[x+1]
// add 1 to value of x
// add this to grid[0] address
// store into this address
```

```c
ptr = grid;
// set ptr equal to grid[0]
```