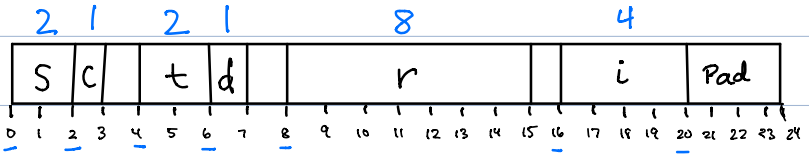
Nick Alvarez

CS 326 Homework 5

1.



One element of the array occupies 24 bytes.
There are ten elements: 24 * 10 = 240 bytes

2.

	Struct	Strict	Loose
a	✓	✓	✓
b	✓	✓	✓
c	✓		✓
d	✓		

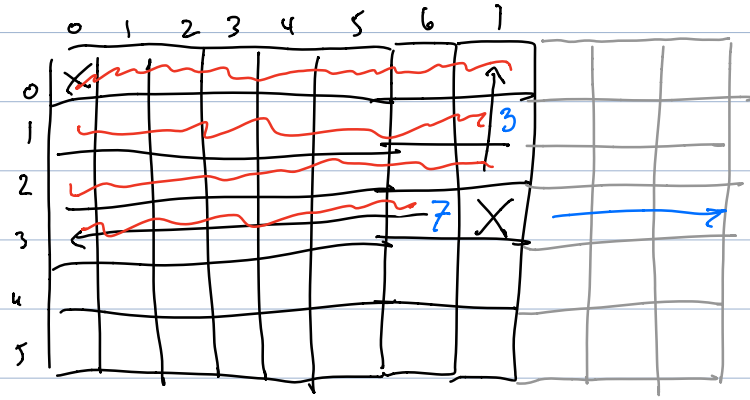
3. First, calling AllocateCell with (c) is wrong. c is a pointer object, we need to call AllocateCell (&c).
Second, the definition of AllocateCell is incorrect. c is a Cell struct pointer. AllocateCell is asking for a pointer (expecting, for example, we send in a regular Cell variable). So, we need a pointer to a pointer, that way we can access what it points to when inside the function.

```
void AllocateCell (Cell **q) {
  q* = (Cell *) malloc (sizeof(Cell));
}
```

Inside that function, we dereference the pointer to a pointer, that way we can access what c points to, as mentioned above.

```
void main() {
   Cell * c;
   AllocateCell (&c);
   c -> a = 1;
   free (c);
}
```

4.



we have to add all addresses beforehand

10 columns/row

start address + (# columns/row * # rows above + data size) + (# columns previous * data size)

a[3][7] = 1000 + (10 · 3 + (4 bytes + 4 bytes)) + (7 · (4 + 4))

= 1296