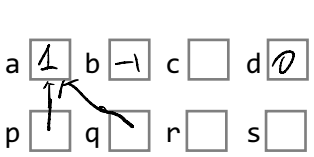
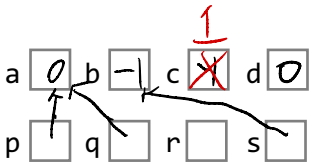
Handout: In-class activity worksheet

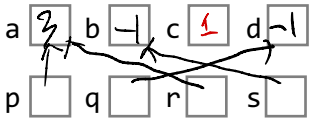
1. Consider the following sequence of C statements. Trace the code and update the memory contents on the diagrams on the right.

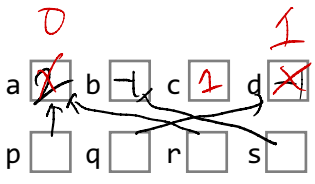
```
int a, b, c, d;
int *p, *q, *r, *s;

a = 1;
b = -1;
d = 0;
p = &a;
q = p;

s = &b;
a = *s + 1;
c = *q - b;

d += b;
*p = 3;
r = q;
q = &d;

*r = 2;
*p = *q + *r + *s;
*q = *r - *s;
```





Problem 1

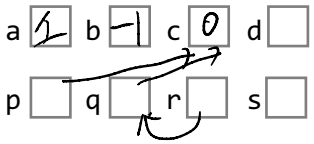




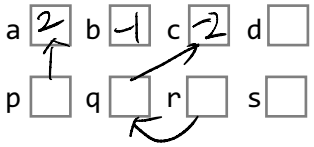
Problem 2

2. Consider the following sequence of C statements. Trace the code and update the memory contents on the diagrams on the right.

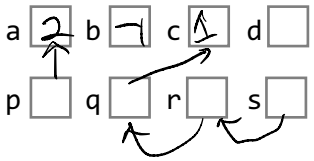
```
int a, b, c, d;
int *p, *q, **r, ***s;

a = 1;
b = -1;
c = 0;
p = &c;
q = p;
r = &q;
```




```
p = &a;
*p += 1;
*q += -2;
```

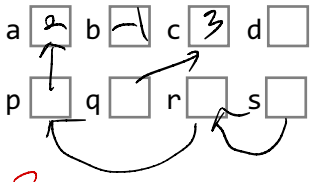



```
**r = b + 2; = 1
s = &r;
```

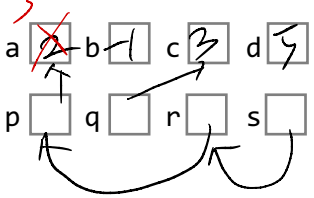


Problem 3

```
***s = *p + c;
r = &p;
```




```
d = ***s + *q;
*p = ***s + **r + b;
```



Problem 4