APS105 Lecture 19

Today: Midterm Revision

Q11 - Print the following pattern

```
  0 1 2 3 4 5
0 @ @ @ @ @ @
1 @ @     @ @
2 @   @ @   @
3 @   @ @   @
4 @ @     @ @
5 @ @ @ @ @ @
```

Always have a nested loop for this question, parent/big loop for rows and smaller/inner loop for columns.

```
for (int row=0; row< n ; row++){
    for (int col=0; col<n ; col++){
        if ( col == 0 || row == 0 || col == n-1 ||
             row == n-1 || col == row || col+row == n-1)
            printf("@");
        else
            printf(" ");
    }
}
```

drows the other diagonal

```
int main (void) {

    int *p, x;
    int five Int [5] = {1, 2, 3, 4, 5};
    int *q;

    p = NULL;
    q = five Int;
    x = 6;
    p = &x;

    printf ("A: %d %d \n", x, *p);

    *(q+3) = *p;
    x = *p + *(q+3);

    printf ("B: %d %d %d \n", x, *p, *q);
    return 0;
}
```

five Int [3] → &five Int [3]

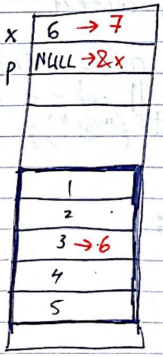
*(q+3) = *p;

x = *p = *q + *(q+3);

five Int [0] · five Int [3]

A: 6 6

B: 7 7 1



```
#include <stdio.h>

int * confuse (int *x, int *y){
    (*y)++;
    y = x;
    *y = 10;
    return y;
}

int main (void){
    int a = 6, b = 7;
    int *f = &b;
    f = confuse (&a, &b);
    (*f)++;
    printf("a = %d and b = %d \n", a, b);
    return 0;
}
```

b

a

&a

&a

a

a = 11 , b = 8

a	6 → 10 → 11
b	7 → 8
f	&b → &a

confuse

x	&a
y	&b → &a