

Misc. Function Details

CIT 593

Pass by Value in Java

```
public class Foo {
    public Foo (){
        int x = 0;
        System.out.println("In Foo:" + x);
        changeX(x);
        System.out.println("In Foo:"+ x);
    }

    public void changeX (int x) {
        System.out.println("In changeX:"+ x);
        x = 5;
        System.out.println("In changeX:"+ x);
    }
}
```

Output of Program
In Foo:0
In changeX:0
In changeX:5
In Foo:0

Pass by Reference in C

```
#include <stdio.h>
void foo(int x);
int main(){
    int x = 0;
    printf("In main: x = %d\n",x);
    foo(x);
    printf("In main: x = %d\n",x);
}
```

```
void foo(int x){
    printf("In foo: x = %d\n",x);
    x = 5;
    printf("In foo: x = %d\n",x);
}
```

Ouput:

In main: x = 0

In foo: x = 0

In foo: x = 5

In main: x = 0

Evaluation Order special case in C

What does this do?

```
void func(int x, int y) { printf("%d %d\n", x, y); }
int main() {
    int x = 3;
    func(x, x++);
    ...
}
```

Answer: **undefined!**

- Displays either "3 3" or "4 3"
- Why? C does not define order of evaluation in such a case
- Depends on compiler writer
- Suggestion: *don't* modify variable in parameter list