

**CS211 3-20-12**



# Function Pointers:

**Allows your program to determine which function to call dynamically.**

**Ex:**

**double (\*func) (double x);**  
**- This function pointer signature is take a double as parameter, and returns a double.**



# typedef:

**Allow you to create alias for a data type, or a function.**

**Ex:**

```
typedef double Currency;  
typedef string FiveString[5];  
typedef double(*func) (double x, double y);
```



# Fancy Print Chess Board:

```
typedef char box[5][7];
```

```
box bb, wb, wq, bq, *board[8][8];
```

```
for (int i = 0; i < 5; i++)  
    for (int j = 0; j < 7; j++)  
    {  
        wb[i][j] = `';  
        wq[i][j] = `';  
        bb[i][j] = char(219);  
        bq[i][j] = char(219);  
    }
```



# Fancy Print Chess Board:

```
//create white queens
```

```
wq[0][3] = wq[1][2] = wq[1][4] = wq[2][3] =  
wq[3][3] = wq[4][2] = wq[4][3] = wq[4][4] =  
char(519);
```

```
//fill board with pointers with alternate bb and wb
```

```
for (int i = 0; i < 8; i++)
```

```
    for (int j = 0; j < 8; j++)
```

```
        if ((i+j) % 2 == 0) board[i][j] = &wb;
```

```
        else board[i][j] = &bb;
```



# Fancy Print Chess Board:

```
//print the board via the pointers
//8 rows of boards
for (int i = 0; i < 8; i++)
    //5 rows of char in each board
    for (int k = 0; k < 5; k++)
    {
        //8 columns of boards in each row
        for (int j = 0; j < 8; j++)
            //7 columns of chars in the board of each row
            for (int l = 0; l < 7; l++)
                cout << (*board[i][j])[k][l];
        cout << endl;
    }
```

