CS23710 C Programming (and UNIX) Batch Three

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Multiple Entry Points Switch Statement

switch (expression) statement

has case labels

e.g.

```
switch ( I ) {
        case 17: X = 5; break;
        case 19: X=4;
        case  7: X = X * 2 ; break ;
        case 20: X = 0 ;
        default: X = 21;
}
```

Break and Continue

Break - causes exit from the nearest surrounding loop or switch

```
while (1) {
        X = X + Y * 0.5;
        if ( X>Y) break;
}
```

Continue - jump to the test condition of the nearest surrounding loop (NOT switch)

Unconditional Jumps

goto - cause flow of control to change to the labelled statement

```
        Y = 7;
LAB1:   X = Y*Z;
        if ( X < Z+0.5) goto LAB1;
```

Conditional Expressions

? : operator

e.g.

expr1 ? expr2 : expr3

check if TRUE or FALSE
TRUE => value is expr2
FALSE => value is expr3

y = (X > 2) ? 5 : 8 ;

Comma Operator

expr1 , expr2

Means ….
evaluate expr 1 and then evaluate expr2
overall value is expr2
e.g.

Y = (Z=7) , Z*3 ;

```
for (I=1, j=1 ; I < 7 ; I++)
      {
      }
```

BIT Operators [not logical]

& is AND | is OR
^ is XOR ~ is INVERT
<< is SHIFT LEFT >> is SHIFT RIGHT

0x401 & 0xF00 value is **0x400**

~0x4272 has value **0xBD8D**

0x81 << 2 has value **0x204**

>> SHIFT RIGHT if unsigned the top bits filled with zeros, if signed the top bit is duplicated.

Arrays

elements are numbered 0 -> some limit, there is no subscript checking !

float X[50];
declares X to be an array of real values X[0] .. X[49]
Often

```
#define ARRSIZE 50
float X[ARRSIZE];
int I;
      for ( I = 0; I < ARRSIZE ; I++)
            {  X[I] = …..
            }
```