

# 601.220 Intermediate Programming

Control flow

# Outline

- logical operators
- conditionals (`if` and `switch`)
- assignment and unary operators
- loops
- exercise 2-1

# Logical operators

## Logical Operators

Following table shows all

# Logical operators example

```
// logical_op.c:
#include <stdio.h>
int main(void)
{
    int a = 5, b = 5, c = 10, result = 0;
    result = (a == b) &
```

## Conditionals (if)

- Suppose `a` represents some boolean expression (that is, `a` can be interpreted as having either value <

## Conditionals (switch)

```
switch (integer expr) {  
  
    case c1: stmt1;  // execution starting point for c1  
    case c2:
```

# Switch statement example

```
// switch_example.c:
#include <stdio.h>

int main () {
    char grade = 'B';
    switch(grade) {

```

## Checkpoint Question!

What output is printed by the following C program if the user enters the input 42?

```
#include &
```



# Compound assignments

Assignment operator	Sample expression	Explanation	Assigns
<i>Assume: int c =</i>			

# Increment and decrement

Operator	Sample expression	Explanation
++	++a	Increment a

## Loop summary

- `while(boolean expression) { statements }`
  - Iterates  $\geq 0$

## An example for loop

```
// for_example.c:
#include <stdio.h>
int main(void) {
    for(int i = 0; i < 10; i++) {
        printf("%d ", i);
    }
}
```

A question for you: why using `i++` but not `++i`? Which one is preferred?

# Checkpoint Question!

What output is printed by the following C program?

## A loop that reads in values until no more are available

```
// sum.c:
#include <stdio.h>
int main(void) {
    int sum = 0;
    int addend; <
```

## Less desirable loop to read in input

```
// sum_less_clean.c:
#include <stdio.h>
int main(void) {
    int sum = 0;
    while (1
```

## Exercise 2-1

- Find link for Exercise 2-1 on the course website and follow instructions there
- Read note about scanf and look up reference that's linked there!
- Ask for help ...