

C Language

Conditionals and Loops

Creating a C Program

- Solve a problem or provide a service
- Learn program structure
- Learn basic syntax
- Proper use of comments, indentation, and white space
- Understanding the problem to find a solution
- Flowcharts

Pseudocode

If the salary is greater than 200,000 then
increase the credit balance by 10% of the
current credit balance.

Algorithms

```
if (salary > 200000)
{
    addcredit = credit * .10;
    credit = credit + addcredit;
}
```

Operators

- == or !=
- >, <, >=, <=
- ++ and --
- &&, ||, !
- Assignment : =, +=, -=, *=, /=, %=

if/else statements

- Single, double, and more selection statements

```
if (condition)
{
    /* code */
}
else if (condition)
{
    /* code */
}
else
{
    /* code */
}
```

switch case

- Multiple selection statements

```
switch (variable)
{
    case 1:
        /* code */
        break;
    case 2:
        /* code */
        break;
    default:
        /* code */
        break;
}
```

Iteration Statements

for loop

```
for (initialize; condition; increment)
{ /* code */ }
```

while loop

```
while (condition)
{ /* code */ }
```

do while loop

```
do
{ /* code */ } while (condition);
```

Break and Continue

- `break` -- exit form loop or switch.
- `continue` -- skip 1 iteration of loop.
 - Consider the following example where we read in integer values and process them according to the following conditions. If the value we have read is negative, we wish to print an error message and abandon the loop. If the value read is great than 100, we wish to ignore it and continue to the next value in the data. If the value is zero, we wish to terminate the loop.
- `goto` : **BAD** programming

Questions