Flow of Control and Programming

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CSC201 Section 002
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Visual Studio Demo
While Statements

"while cond do x1"

• is equivalent to

"while1:
  if !(cond) goto out1
  x1
  goto while1
out1:...."
In SASM

- **C**: 

```
while (a < b)
    a = a * a
```

- **SASM**: 

```
while1:
    compare a,b
    bgez    out1
    imult  a,a
    br while1
out1: ...
```
For Statements

"for (initialization; cond; update) do x1"

• is equivalent to

"initialization
for (initialization; cond; update) do x1
fortop:
    x1
    update
    if (cond) goto fortop
out2:   ... "
In SASM

• C:

```c
for (i1 = 0; i1 < 10; i1++)
    putc(c1);
```

• SASM:

```asm
move i1, 0
fortop:
    put_ch c1
    iadd i1, 1
    compare i1, 10
    blz fortop
out2: ...
```