Module 16:
while loops

Intro to Computer Science 1 – C++
Professor Scott Frees

Textbook

while loops are covered in Section 5.1, and 5.2

Program exercise

Write a program to print every number between 0 and 10 on a separate line

Program exercise

Now do the same thing, but 0-100.....

Now 0-10000....

while loop

```
while ( boolean expression ) {
    statements to execute….
}
```

Predicting the output

```cpp
int x = 3;
while ( x < 5 ) {
        cout << x << endl;
        x += 1;
}
```

```cpp
int x = 6;
while ( x < 6 ) {
        cout << x << endl;
        x+=1;
}
```

```cpp
int x = 2, y = 2;
while ( x < 5 ) {
        cout << x << endl;
        y+= 1;
}
```

```cpp
int x = 2, y = 10;
while ( x < 5 ) {
        cout << y << endl;
        y += 1;
        x += 1
}
```

Programming Example 16

Counting with a while loop

Let user enter an integer between 1 and 100

Print out every _even number_ up to and including the number they enter

Programming Example 17

Ask the user to enter 5 numbers that are divisible by 3 and 5.

Don't let them stop until they've entered 5 of them!

Notice this is not a counting loop… you really don't know how many times you'll need to go around.

You just know when to stop!