Last Time

- We
  - Completed our discussion on *for* loops
  - Learned about the *switch* selection structure
- Today we will
  - Introduce the *do/while* repetition structure

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### do/while Repetition Structure

- What repetition structures have we covered so far?
- *do/while* is another repetition structure
- Useful when the test happens at the end of the loop

#### do/while Loops

```cpp
do{
cout << "Enter a year:" << endl;
cin >> year;
} while (year < 0);
```

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When to use *do while*?

- When loop must execute at least once
- Perfect for data validation!
- Post-tested loop
- General format:
  ```cpp
do{
  statements;
} while (condition is true);
```

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Example

- 11.1: Write a program segment that takes as input a number between 5 and 10. Error proof the segment
11.2: What's the output?

```cpp
m = 10;
do{
cout << m << endl;
m = m - 3;
} while (m > 0);
```

11.3: Rewrite as a do/while

```cpp
num = 10;
while (num <= 100)
{
cout << num << endl;
num += 10;
}
```

11.4: Rewrite as a do/while

```cpp
for (n = 3; n > 0; n--)  
cout << n << " squared is"  
  << n*n << endl;
```

11.5: What is the Output?

```cpp
int counter = 1;
do{
cout << counter << " ";
} while( ++counter <= 10 );
```

```cpp
int counter = 1;
do{
cout << counter << " ";
} while( counter++ <= 10 );
```

11.6: What is the Purpose?

```cpp
char ch;
do{
cout << "Enter a valid code (h,c,i): ";
cin >> ch;
} while ((ch != 'h') && (ch != 'c') && (ch != 'i'));
```

11.7: Rewrite as a for and while Loop

```cpp
int i;
for(i = 0; i <= 50; i++)
  sum += i;
```
Summary

- In today’s lecture we covered
  - Introduce the `do/while` repetition structure

- Readings
  - P. 113 - 119 `switch` selection structure
  - P. 120 - 121 `do/while` repetition structure