Lambda Expressions and Partial Evaluation Exercises

Storing Lambdas

- What type of variable is used to store a lambda?

- Rewrite the program from the last exercise in which find_if was called with a predicate lambda that performed a capture by value

- This time, write the lambda separately, then store it and use the stored lambda as the predicate

Returning a Lambda from a Function call

- Write a function that takes a string and returns a lambda expression
  - The lambda will take another string as its argument
  - It combines this string with the function's argument string and returns the result
- Write a program which calls your function and stores the resulting lambda expression
- Call the stored lambda expression and display the result

Partial evaluation

- Explain briefly what is meant by "partial evaluation"
- Why is it useful?

Partial Evaluation using Lambda

- Here is some code from the lecture

```
auto greeter(const string& salutation) {
    return [salutation] (const string& name) { return salutation + ", "s + name; };
}


auto greet = greeter("Hello"s);
```

- Explain briefly how this code could be used to perform a partial evaluation

Capture by Reference Caveats

- Can storing a lambda that performs capture by reference be dangerous?