

```
// BEFORE Java 8
public static List<Customer> filterSFCustomers(List<Customer> customers) {
    List<Customer> result = new ArrayList<>();
    for (Customer customer : customers) {
        if ("SF".equals(customer.getCity())) {
            result.add(customer);
        }
    }
    return result;
}

// parameterize the city
public static List<Customer> filterCustomersByCity(List<Customer> customers, String city) {
    List<Customer> result = new ArrayList<>();
    for (Customer customer : customers) {
        if (customer.getCity().equals(city)) {
            result.add(customer);
        }
    }
    return result;
}
```

Encapsulate the filter logic in a separate class:

```
public class CustomerByCity {
    public boolean test(Customer cust, String searchStr) {
        return cust.getCity().equals(searchStr);
    }
}
```

Pass an Object of Type CustomerByCity to the search method:

```
List<Customer> filteredCusts = filterCustomers(custs, new CustomerByCity(), "LA");
```

```
public static List<Customer> filterCustomers(List<Customer> customers, CustomerByCity cbc,
String searchStr) {
    List<Customer> result = new ArrayList<>();
    for (Customer customer : customers) {
        if (cbc.test(customer, searchStr)){
            result.add(customer);
        }
    }
    return result;
}
```

Why create a physically separate class? Use an anonymous class instead:

```
filteredCusts = filterCustomers(custs,  
    new CustomerPredicate(){  
        public boolean test(Customer cust, String searchStr){  
            return cust.getCity().equals(searchStr);  
        }  
    }, "LA");
```

Can we limit the amount of code? Use a Functional Interface instead. It must have same return type and parameter list as the current method:

```
public interface CustomerPredicate {  
    boolean test(Customer cust, String searchStr);  
}
```

```
filteredCusts = filterCustomers(custs,  
(Customer cust, String searchStr) -> cust.getCity().equals(searchStr), "LA");
```

```
// use CustomerPredicate  
public static List<Customer> filterCustomers(List<Customer> customers,  
CustomerPredicate custPred, String searchStr) {  
    List<Customer> result = new ArrayList<>();  
    for (Customer customer : customers) {  
        if (custPred.test(customer, searchStr)) {  
            result.add(customer);  
        }  
    }  
}
```