↑ 6.29 Functions with array parameters: Common errors

6.30 C++ example: Salary calculation with functions

zyDE 6.30.1: Calculate salary: Using functions.

Separating calculations into functions simplifies modifying and expanding programs.

The following program calculates the tax rate and tax to pay, using functions. One function returns a tax rate based on an annual salary.

1. Run the program below with annual salaries of 40000, 60000, and 0.
2. Change the program to use a function to input the annual salary.
3. Run the program again with the same annual salaries as above. Are results the same?

Note: The calculation is inaccurate to how taxes are formally assessed and is a simplification for educational purposes only.

Load default template...

```
#include <iostream>
#include <vector>
using namespace std;

double GetCorrespondingTableValue(int search, vector<int> baseTable, vector<double> valueTable) {
   int baseTableLength;
   double value;
   int i;
   bool keepLooking;

   baseTableLength = baseTable.size();
   i = 0;
   keepLooking = true;

   while ((i < baseTableLength) && keepLooking) {
      if (search <= baseTable.at(i)) {
         value = valueTable.at(i);
         keepLooking = false;
```

```
40000 60000 0
```

Run

Feedback?

A solution to the above problem follows. The program was altered slightly to allow a zero annual salary and to end when a user enters a negative number for an annual salary.

zyDE 6.30.2: Calculate salary: Using function (solution).

Load default template...

```
#include <iostream>
#include <vector>
#include <string>
using namespace std;

// Function to prompt for and input an integer
int PromptForInteger(const string userPrompt) {
   int inputValue;

   cout << userPrompt << ": " << endl;
   cin >> inputValue;

   return inputValue;
}

// ***************************************************************************

// Function to get a value from one table based on a range in the other table
```

```
60000 40000 1000000
-1
```

Run

Feedback?

How was this section? | Provide section feedback

↓ 6.31 C++ example: Annual salary tax rate calculation with vectors