w3e20.h

```
 1: // Programming in C/C++
 2: // Week 3: Assignment 20
 3: // Tjalling Otter &  Emiel Krol
 4: // Header file
 5:
 6: #ifndef SUMFUNCTIONS
 7: #define SUMFUNCTIONS
 8:
 9: #include <iostream>
10: #include <string>
11:
12: bool isDouble(char const *inputArray[], size_t length);
13: size_t sum(char const *inputArray[], size_t length, bool isDouble);
14: double sum(char const *inputArray[], size_t length);
15:
16: #endif
```

main.ih

```
 1: // Programming in C/C++
 2: // Week 3: Assignment 20
 3: // Tjalling Otter &  Emiel Krol
 4: // Main function: internal header
 5:
 6: #include <iostream>
 7: #include <string>
 8:
 9: using namespace std;
10:
11: bool isDouble(char const *inputArray[], size_t length);
12: size_t sum(char const *inputArray[], size_t length, bool isDouble);
13: double sum(char const *inputArray[], size_t length);
```

main.cc

```
 1: // Programming in C/C++
 2: // Week 3: Assignment 20
 3: // Tjalling Otter &  Emiel Krol
 4: // Main function
 5:
 6: #include "main.ih"
 7:
 8: int main(int argc, const char *argv[])
 9: {
10:   size_t length = argc; // Number of arguments from argc
11:   bool doubleInput = isDouble(argv, length);  // Determine if inputs are doubles
12:
13:   auto summedValue = (doubleInput ? sum(argv, length) : sum(argv, length, doubleInput));
14:   cout << summedValue << "\n";
15:   // If input are doubles, call the function to sum doubles. Otherwise, call
16:   // the one for integers. The return thereof is assigned to summedValue,
17:   // and then printed.
18: }
```

doubleSum.cc

```
 1: // Programming in C/C++
 2: // Week 3: Assignment 20
 3: // Tjalling Otter &  Emiel Krol
 4: // Double sum function
 5:
 6: #include "w3e20.h"
 7:
 8: using namespace std;
 9:
10: double sum(char const *inputArray[], size_t length)
11: {
12:
13:   double totalSum = 0;  // Initialise the sum variable
14:
15:   for (size_t index = 1; index != length; ++index)  // For the entire argv array
16:     totalSum += stod(inputArray[index]);  // Sum that member with the sum var
17:
18:   return totalSum;  // At the end, return it
19: }
```

integerSum.cc

```
 1: // Programming in C/C++
 2: // Week 3: Assignment 20
 3: // Tjalling Otter &  Emiel Krol
 4: // Integer sum function
 5:
 6: #include "w3e20.h"
 7:
 8: using namespace std;
 9:
10: size_t sum(char const *inputArray[], size_t length, bool isDouble)
11: {
12:
13:   size_t totalSum = 0;  // Initialise the sum variable
14:
15:   for (size_t index = 1; index != length; ++index) // For the entire argv array
16:     totalSum += stoul(inputArray[index]); // Sum that member with the sum var
17:
18:   return totalSum;  // At the end, return it
19: }
```

isDouble.cc

```
 1: // Programming in C/C++
 2: // Week 3: Assignment 20
 3: // Tjalling Otter &  Emiel Krol
 4: // isDouble function
 5:
 6: #include "w3e20.h"
 7:
 8: using namespace std;
 9:
10: bool isDouble(char const *inputArray[], size_t length)
11: {
12:   for (size_t index = 1; index != length; ++index)  // For the argv array
13:   {
14:     string tempString = inputArray[index];  // Transform the member to string
15:     if (tempString.find('.') != string::npos) // Find a period
16:       return 1;  // If found, return a 1 and stop the function
17:   }
18:   return 0; // Otherwise, return 0
19: }
```