Lab Task # 7

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TASK 1

```cpp
#include <iostream>
using namespace std;
int main()
{
    int array[9] = {};

    for (int i; i < 10; ++i){
        cout << "Index " << i + 1 << ": ";
        cin >> array[i];
    }
    for (int i; i < 10; ++i){
        cout << array[i] << "\t";
    }

    return 0;
}
```

```cpp
main.cpp

1   #include <iostream>
2   using namespace std;
3   int main()
4 ▾ {
5       int array[9] = {};
6
7 ▾     for (int i; i < 10; ++i){
8           cout << "Index " << i + 1 << ": ";
9           cin >> array[i];
10      }
11 ▾    for (int i; i < 10; ++i){
12          cout << array[i] << "\t";
13      }
14
15      return 0;
16  }
```

```
                                                    input
Index 1: 1
Index 2: 2
Index 3: 3
Index 4: 4
Index 5: 5
Index 6: 6
Index 7: 7
Index 8: 8
Index 9: 9
Index 10: 10
1       2       3       4       5       6       7       8       9       10

...Program finished with exit code 0
Press ENTER to exit console.
```
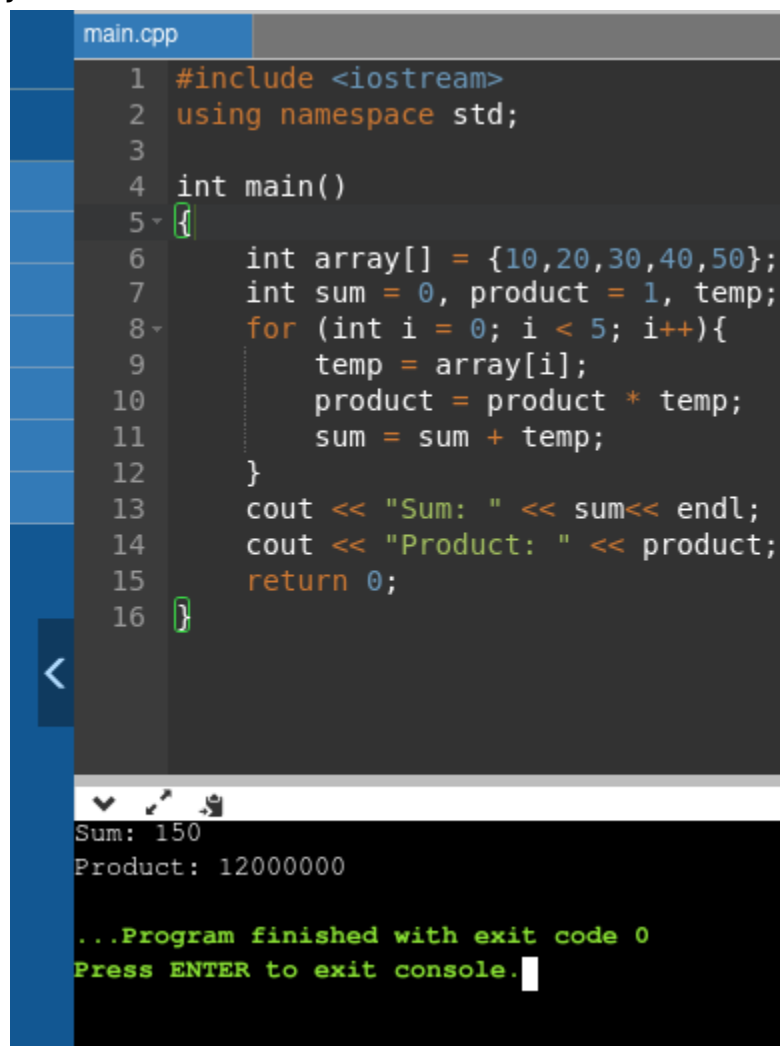
TASK 2

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

int main()
{
    int array[] = {10,20,30,40,50};
    int sum = 0, product = 1, temp;
    for (int i = 0; i < 5; i++){
    temp = array[i];
    product = product * temp;
    sum = sum + temp;
    }
    cout << "Sum: " << sum<< endl;
    cout << "Product: " << product;
    return 0;
}
```

main.cpp

```cpp
1  #include <iostream>
2  using namespace std;
3
4  int main()
5 ▾ {
6      int array[] = {10,20,30,40,50};
7      int sum = 0, product = 1, temp;
8 ▾   for (int i = 0; i < 5; i++){
9          temp = array[i];
10         product = product * temp;
11         sum = sum + temp;
12     }
13     cout << "Sum: " << sum<< endl;
14     cout << "Product: " << product;
15     return 0;
16 }
```

```
Sum: 150
Product: 12000000

...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 3

```cpp
#include <iostream>
using namespace std;
int main() {
    int mid_row;
    cout << "Enter lines till half of diamond: ";
    cin >> mid_row;
    cout << endl;
    int size = 2 * mid_row - 1;
    char diamond[size + 1] = {};
    for (int i = 0; i < size; ++i) {
    diamond[i] = ' ';
    }
    for (int i; i < mid_row; ++i) {
    diamond[mid_row - i] = '*';
    diamond[mid_row + i] = '*';
    for (int j = 0; j <= size; ++j) {
    cout << diamond[j];
    }
    cout << endl;
    }
    for (int i = mid_row - 1; i > 0; --i) {
    diamond[mid_row - i] = diamond[mid_row + i] = ' ';
    for (int j = 0; j <= size; ++j) {
    cout << diamond[j];
    }
    cout << endl;
    }
    return 0;
}
```

```cpp
#include <iostream>
using namespace std;
int main() {
    int mid_row;
    cout << "Enter lines till half of diamond: ";
    cin >> mid_row;
    cout << endl;
    int size = 2 * mid row    1;
```

```
Enter lines till half of diamond: 12

           *
          ***
         *****
        *******
       *********
      ***********
     *************
    ***************
   *****************
  *******************
 *********************
***********************
 *********************
  *******************
   *****************
    ***************
     *************
      ***********
       *********
        *******
         *****
          ***
           *
```