Ronish Shrestha
CS360LAB
Individual Assignment 1

Q.no.1)

```cpp
//Q.No.1
#include <iostream>
using std::cout;
using std::endl;
using std::string;
const char SEMI_COLON = ';';
const string VERB1 = "went up ";
const string VERB2 = "down came ";
const string VERB3 = "washed ";
const string VERB4 = "out came ";
const string VERB5 = "dried up ";
int main(void){
string firstLine;
string secondLine;
string thirdLine;
string fourthLine;
firstLine = "The itsy bitsy spider " + VERB1 +"the water spout";
secondLine = VERB2 + "the rain and " + VERB3 +"the spider out";
thirdLine = VERB4 + "the sun and " + VERB5 +"all the rain";
fourthLine = "and the itsy bitsy spider " + VERB1 +"the spout again";
cout << firstLine << SEMI_COLON << endl;
cout << secondLine << SEMI_COLON << endl;
```

```
The itsy bitsy spider went up the water spout;
down came the rain and washed the spider out;
out came the sun and dried up all the rain;
and the itsy bitsy spider went up the spout again.
```

2a)

```cpp
//Q.No.2a)
#include <iostream>
using namespace std;

int main() {
    string firstName, lastName;
    int month, day, year;
    cout << "Enter your first name and last name: ";
    cin >> firstName >> lastName;
    cout << "Enter today's date (month day year): ";
    cin >> month >> day >> year;

    cout << lastName << ", " << firstName << " " << month << ":" << day << ":" << year;
    return 0;
}
```

```
Enter your first name and last name: Ronish Shrestha
Enter today's date (month day year): 02 14 2024
Shrestha, Ronish 2:14:2024
```

2b)

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

int main() {
    string firstName, lastName;
    int month, day, year;
    cout << "Enter your first name and last name: ";
    cin >> firstName >> lastName;
    cout << "Enter today's date (month day year): ";
    cin >> month >> day >> year;

    cout << lastName << ", " << firstName << endl; // Added endl for space
    cout << month << ":" << day << ":" << year;
    return 0;
}
```

```
Enter your first name and last name: Ronish Shrestha
Enter today's date (month day year): 02 14 2024
Shrestha, Ronish 2:14:2024
```

Run 29s on 22:13:30, 02/14

```
Enter your first name and last name: Ronish Shrestha
Enter today's date (month day year): 02 14 2024
Shrestha, Ronish
2:14:2024
```

2c)

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

int main() {
    string firstName, lastName;
    int month, day, year;
    cout << "Enter your first name and last name: ";
    cin >> firstName >> lastName;
    cout << "Enter today's date (month day year): ";
    cin >> month >> day >> year;

    cout << firstName << " " << lastName << endl; // Changed the order and used a blank space
    cout << month << ":" << day << ":" << year;
    return 0;
}
```

```
Enter your first name and last name: Ronish Shrestha
Enter today's date (month day year): 02 14 2024
Ronish Shrestha
2:14:2024
```

3a)

```cpp
#include <iostream>
using std::cout;
using std::string;

const string FULL_NAME = "Ronish Shrestha"; // Replace with your actual name

int main(void) {
    cout << "Full Name: " << FULL_NAME << '\n';
    cout << "Length of the Full Name: " << FULL_NAME.length() << '\n';
    cout << "Size of the Full Name: " << FULL_NAME.size() << '\n';
    return 0;
}
```

```
Full Name: Ronish Shrestha
Length of the Full Name: 15
Size of the Full Name: 15
```

3b)

```cpp
#include <iostream>
using std::cout;
using std::string;

const string FULL_NAME = "Ronish Shrestha"; // Replace with your actual name

int main(void) {
    // Assuming a single space between first and last names
    size_t spaceIndex = FULL_NAME.find(' ');
    string lastName = FULL_NAME.substr(spaceIndex + 1);
    string firstName = FULL_NAME.substr(0, spaceIndex);

    cout << "Formatted Name: " << lastName << ", " << firstName << '\n';
    return 0;
}
```

```
Formatted Name: Shrestha, Ronish
```

3c)

```cpp
#include <iostream>
using std::cout;
using std::string;

const string FULL_NAME = "Ronish Shrestha"; // Replace with your actual name

int main(void) {
    // Assuming a single space between first and last names
    size_t spaceIndex = FULL_NAME.find(' ');
    string lastName = FULL_NAME.substr(spaceIndex + 1);
    char firstInitial = FULL_NAME[0];

    cout << "Formatted Name: " << lastName << ", " << firstInitial << ".\n";
    return 0;
}

```

Run 5s on 22:29:50, 02/1

```
Formatted Name: Shrestha, R.
```

4a)

```cpp
#include <iostream>
#include <iomanip>

using std::cout;
using std::right;
using std::setw;

const int NUM1 = 1066;
const int NUM2 = 1492;
const int NUM3 = 512;
const int NUM4 = 1;
const int NUM5 = -23;

int main(void) {
    cout << std::fixed << std::showpoint;
    // Set width and right justify the numbers
    cout << setw(10) << right << NUM1 << '\n';
    cout << setw(10) << right << NUM2 << '\n';
    cout << setw(10) << right << NUM3 << '\n';
    cout << setw(10) << right << NUM4 << '\n';
    cout << setw(10) << right << NUM5 << '\n';

    return 0;
}
```

```
      1066
      1492
       512
         1
       -23
```

4b)

```cpp
#include <iostream>
#include <iomanip>

using std::cout;
using std::right;
using std::setw;
using std::fixed;
using std::setprecision;

const int NUM1 = 1066;
const int NUM2 = 1492;
const int NUM3 = 512;
const int NUM4 = 1;
const int NUM5 = -23;

int main(void) {
    cout << fixed << std::showpoint;

    // Calculating the sum of the first two values and the sum of the last three values
    double sumFirstTwo = NUM1 + NUM2;
    double sumLastThree = NUM3 + NUM4 + NUM5;

    // Calculating the result and storing it in answer
    double answer = sumFirstTwo / sumLastThree;

```

```
      1066
      1492
       512
         1
       -23
The answer is 5.2204
```

4c)

```cpp
#include <iostream>
#include <iomanip>

using std::cout;
using std::right;
using std::setw;
using std::fixed;
using std::setprecision;

const double NUM1 = 23.62;
const double NUM2 = 46.0;
const double NUM3 = 43.4443;
const double NUM4 = 100.1;
const double NUM5 = 98.98;

int main(void) {
    cout << fixed << std::showpoint;

    // Assuming we want a field width that can accommodate the largest number plus the decimal point and two decimal places
    int fieldWidth = 10;

    // Set the precision to two decimal places for floating-point numbers
    cout << setprecision(2);
```

```
23.62
46.00
43.44
100.10
98.98
```

4d)

```cpp
#include <iostream>
#include <iomanip>

using std::cout;
using std::right;
using std::setw;
using std::fixed;
using std::setprecision;

const double NUM1 = 23.62;
const double NUM2 = 46.0;
const double NUM3 = 43.4443;
const double NUM4 = 100.1;
const double NUM5 = 98.98;

int main(void) {
    cout << fixed << std::showpoint;

    // Calculate the sum of the numbers
    double sum = NUM1 + NUM2 + NUM3 + NUM4 + NUM5;

    // Set the precision to two decimal places for floating-point numbers
    cout << setprecision(2);
```

Run 3s on 22:

```
 23.62
 46.00
 43.44
100.10
 98.98

The sum of the numbers is     312.14
```

5a)

```cpp
#include <iostream>
#include <string>

using std::cout;

int main(void) {
    // Calculate padding manually for each string to center them in 20 characters width
    std::string greeting = "Good Morning";
    std::string name = "Sarah";
    std::string exclamation = "Sunshine!";

    // Calculate the padding needed for each string to be centered
    int paddingGreeting = (20 - greeting.length()) / 2;
    int paddingName = (20 - name.length()) / 2;
    int paddingExclamation = (20 - exclamation.length()) / 2;

    // Print each string with manual padding to center them
    cout << std::string(paddingGreeting, ' ') << greeting;
    cout << std::string(paddingName, ' ') << name;
    cout << std::string(paddingExclamation, ' ') << exclamation;

    return 0;
```

```
Good Morning       Sarah     Sunshine!
```

5b)

```cpp
#include <iostream>
#include <iomanip>

int main() {
    std::cout << std::setw(20) << std::right << "Good Morning"
              << std::setw(20) << std::right << "Sarah"
              << std::setw(20) << std::right << "Sunshine!";

    return 0;
}
```

Generate ⌘ I

Run 5s on 23:01:41, 02/14

```
        Good Morning               Sarah           Sunshine!
```

5c)

```cpp
#include <iostream>
#include <iomanip>

using std::cout;
using std::setw;

int main(void) {
    // Print each string on separate lines with a blank line in between
    cout << setw(20) << std::internal << "Good Morning" << "\n\n";
    cout << setw(20) << std::internal << "Sarah" << "\n\n";
    cout << setw(20) << std::internal << "Sunshine!" << "\n";

    return 0;
}
```

Generate ⌘ I

Run Good Morning Sarah Sunshine! 5s on 23:01:41, 02/

Run 5s on 23:02:41, 02/

```
        Good Morning

               Sarah

           Sunshine!
```