EUROPEAN UNIVERSITY OF LEFKE
Faculty of Engineering
Department of Computer Engineering

COMP218
OBJECT-ORIENTED PROGRAMMING

Lab Work No. 2

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Task (1)

a.

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

using namespace std;

int main()
{
    float values[5] = {0};
    float sum = 0;

    cout << "Enter 5 floating-point values to be added." << endl;

    for (size_t i = 0; i < 5; i++)
    {
        cout << "Value " << i + 1 << ": ";
        cin >> values[i];
    }

    for (size_t i = 0; i < 5; i++)
    {
        sum = sum + values[i];
    }

    cout << "The sum of the values is: " << sum << endl;

    return 0;
}
```

```
Enter 5 floating-point values to be added.
Value 1: 5.6
Value 2: 2.8
Value 3: 1.6
Value 4: 0.7
Value 5: 9.8
The sum of the values is: 20.5
```

b.

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

using namespace std;

int main()
{
    int values[5] = {0};
    int smallest;

    cout << "Enter 5 integers, the program will find the smallest." << endl;

    for (size_t i = 0; i < 5; i++)
    {
        cout << "Value " << i + 1 << ": ";
        cin >> values[i];
    }

    smallest = values[0];

    for (size_t i = 1; i < 5; i++)
    {
        if ( values[i] < smallest )
        {
            smallest = values[i];
        }

    }

    cout << "The smallest value is: " << smallest << endl;

    return 0;
}
```

```
Enter 5 integers, the program will find the smallest.
Value 1: 2
Value 2: 4
Value 3: 6
Value 4: 8
Value 5: 10
The smallest value is: 2
```

c.

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

using namespace std;

int main()
{
    int m, n, ans = 1;

    cout << "Enter a base: ";
    cin >> n;

    cout << "Enter a exponent: ";
    cin >> m;


    for (size_t i = 0; i < m; i++)
    {
        ans = ans * n;
    }

    cout << n << " to the power " << m << " is: " << ans;

    return 0;
}
```

```
Enter a base: 5
Enter a exponent: 3
5 to the power 3 is: 125
```

Task (2)

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

using namespace std;

int main()
{
    int input, a, b, ans;
    cout << "-------------" << endl;
    cout << "PROGRAM MENU" << endl;
    cout << "-------------" << endl;
    cout << "1. Add" << endl << "2. Subtract" << endl;
    cout << "3. Multiply" << endl << "4. Quit" << endl;
    cout << "-------------" << endl;
    cout << "INPUT: ";
    cin >> input;
    cout << "-------------" << endl;

    if ( input < 4 )
    {
        cout << "Enter first value: ";
        cin >> a;

        cout << "Enter second value: ";
        cin >> b;

    }

    switch ( input )
    {
    case 1:
        ans = a + b;
        cout << a << " + " << b << " = " << ans;
        break;

    case 2:
        ans = a - b;
        cout << a << " - " << b << " = " << ans;
        break;

    case 3:
        ans = a * b;
        cout << a << " * " << b << " = " << ans;
        break;

    case 4:
        cout << "QUITTING...";
        break;

    default:
        cout << "INVALID INPUT!";
        break;
    }
    return 0;
}
```

```
------------
PROGRAM MENU
------------
1. Add
2. Subtract
3. Multiply
4. Quit
------------
INPUT: 1
------------
Enter first value: 6
Enter second value: 4
6 + 4 = 10
```

```
------------
PROGRAM MENU
------------
1. Add
2. Subtract
3. Multiply
4. Quit
------------
INPUT: 2
------------
Enter first value: 7
Enter second value: 2
7 - 2 = 5
```

```
------------
PROGRAM MENU
------------
1. Add
2. Subtract
3. Multiply
4. Quit
------------
INPUT: 3
------------
Enter first value: 4
Enter second value: 5
4 * 5 = 20
```

```
------------
PROGRAM MENU
------------
1. Add
2. Subtract
3. Multiply
4. Quit
------------
INPUT: 4
------------
QUITTING...
```

Task (3)

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

using namespace std;

int main()
{
    char input;
    int a, b, ans;
    cout << "-------------" << endl;
    cout << "PROGRAM MENU" << endl;
    cout << "-------------" << endl;
    cout << "Choose an operator:" << endl;
    cout << "+ Add" << endl << "- Subtract" << endl;
    cout << "* Multiply" << endl << ". Quit" << endl;
    cout << "-------------" << endl;
    cout << "INPUT: ";
    cin >> input;
    cout << "-------------" << endl;

    if ( (input == '+') ||  (input == '-') ||  (input == '*')  )
    {
        cout << "Enter first value: ";
        cin >> a;

        cout << "Enter second value: ";
        cin >> b;

    }

    switch ( input )
    {
    case '+':
        ans = a + b;
        cout << a << " + " << b << " = " << ans;
        break;

    case '-':
        ans = a - b;
        cout << a << " - " << b << " = " << ans;
        break;

    case '*':
        ans = a * b;
        cout << a << " * " << b << " = " << ans;
        break;

    case '.':
        cout << "QUITTING...";
        break;

    default:
        cout << "INVALID INPUT!";
        break;
    }
    return 0;
}
```

```
------------
PROGRAM MENU
------------
Choose an operator:
+ Add
- Subtract
* Multiply
. Quit
------------
INPUT: +
------------
Enter first value: 2
Enter second value: 4
2 + 4 = 6
```

```
------------
PROGRAM MENU
------------
Choose an operator:
+ Add
- Subtract
* Multiply
. Quit
------------
INPUT: -
------------
Enter first value: 5
Enter second value: 5
5 - 5 = 0
```

```
------------
PROGRAM MENU
------------
Choose an operator:
+ Add
- Subtract
* Multiply
. Quit
------------
INPUT: *
------------
Enter first value: 4
Enter second value: 2
4 * 2 = 8
```

```
------------
PROGRAM MENU
------------
Choose an operator:
+ Add
- Subtract
* Multiply
. Quit
------------
INPUT: .
------------
QUITTING...
```