OOPs lab

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Assignment #1

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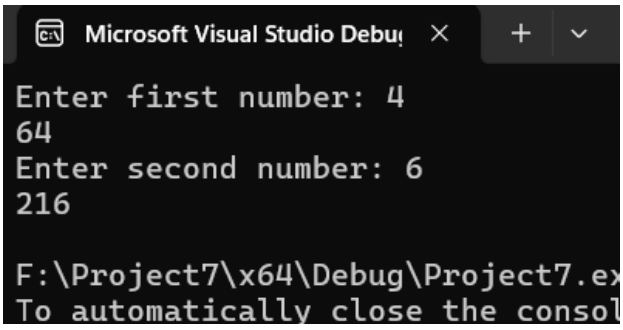
Q1. Write a program to implement the cube root with the help of function overloading.

Code:

```
#include <iostream>
using namespace std;
int cube(float a)
{
	return a * a * a;
}
int cube(int b)
{
	return b * b * b;
}
int main()
{
	int num1, num2;
	cout << "Enter first number: ";
	cin >> num1;
	cout << cube(num1) << endl;
	cout << "Enter second number: ";
	cin >> num2;
	cout << cube(num2) << endl;
	return 0;
}
```

Screenshot:



Q2. Write a program that uses function overloading for adding the two given integer and double precision values separately.

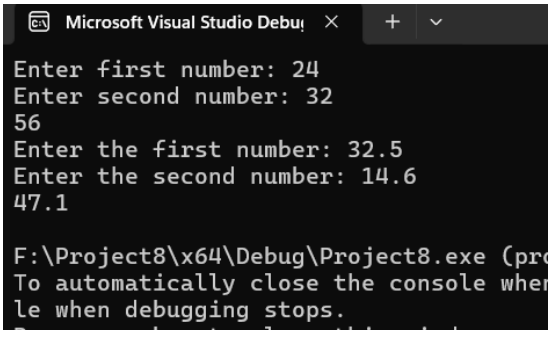
Code:

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

```
int add(int, int);
int add(int x, int y)
{
	return x + y;
}
double add(double, double);
double add(double b, double c)
{
	return b + c;
}
int main() {
	int num1, num2;
	double num3, num4;
	cout << "Enter first number: ";
	cin >> num1;
	cout << "Enter second number: ";
	cin >> num2;
	cout << add(num1, num2) << endl;

	cout << "Enter the first number: ";
	cin >> num3;
	cout << "Enter the second number: ";
	cin >> num4;
	cout << add(num3, num4) << endl;
}
```

Screenshot:

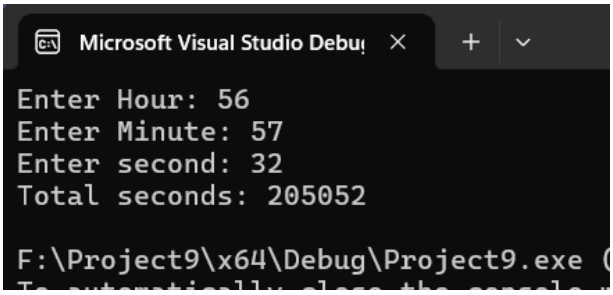


Q3. Create a structure called time. Its three members, all type int, should be called hours, minutes, and seconds. Write a program that prompts the user to enter a time value in hours, minutes, seconds. This can be in 12:59:59 format, or each number

can be entered at a separate prompt (“Enter hours:”, and so forth). The program should then store the time in a variable of type struct time, and finally print out the total number of seconds represented by this time value:
long totalsecs = t1.hours*3600 + t1.minutes*60 + t1.seconds
Code:

```
#include <iostream>
using namespace std;
struct time {
	int hours;
	int minutes;
	int seconds;
}current;
int main()
{
	cout << "Enter Hour: ";
	cin >> current.hours;
	cout << "Enter Minute: ";
	cin >> current.minutes;
	cout << "Enter second: ";
	cin >> current.seconds;
	double totalSeconds = current.hours * 3600 + current.minutes * 60 +
current.seconds;
	cout << "Total seconds: " << totalSeconds << endl;
	return 0;
}
```

Screenshot:



Q4. A phone number, such as (212) 767-8900, can be thought of as having three parts: the area code (212), the exchange (767), and the number (8900). Write a program that uses a structure to store these three parts of a phone number separately. Call the structure phone. Create two structure variables of type phone.

Initialize one, and have the user input a number for the other one. Then display both numbers.

Code:

```
#include <iostream>
using namespace std;
struct phone {
	int areacode;
	int exchange;
	int number;
};
int main()
{
	phone mine = { 212,767,8900 };
	phone yours;
	cout << "Enter your area code: ";
	cin >> yours.areacode;
	cout << "Enter your exchange: ";
	cin >> yours.exchange;
	cout << "Enter your number: ";
	cin >> yours.number;
	cout << endl;
	cout << "My number is (" << mine.areacode << ") " << mine.exchange << "-" << mine.number << endl;
	cout << "Your number is (" << yours.areacode << ") " << yours.exchange << "-" << yours.number << endl;
	return 0;
}
```

Screenshot: