Name: **Kashif Ali**
Roll No: **20P-0648**
Section: **3D**

Lab-12 tasks

Task 1 C++ code

```cpp
#include <iostream>
using namespace std;
// extern "C" instruct the compiler to use C calling conventions
extern "C" int Mul3(int,int,int);
int main() {
    int num1, num2, num3, result;

    cout << "Enter number1: ";
    cin >> num1;

    cout << "Enter number2: ";
    cin >> num2;

    cout << "Enter number3: ";
    cin >> num3;

    result = Mul3(num1, num2, num3);
    cout << "Multiplication is: " << result;

    return 0;
}
```

Task 1 C++ Assembly code

```
.CODE ;Indicates the start of a code segment.

Mul3 proc, a:DWORD, b:DWORD, cc:DWORD
    mov eax, a
    mov ebx, b
    mul ebx
    mov ebx, cc
    mul ebx


    ret
Mul3 endp

END
```

Microsoft Visual Studio Debug Console   —   ☐   ✕

```
Enter number1: 2
Enter number2: 3
Enter number3: 4
Multiplication is: 24
C:\Users\AA\source\repos\Lab 12\Debug\Lab 12.exe (process 3296) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

Task-1 output

Task 2 C++ code

```cpp
#include <iostream>
using namespace std;
// extern "C" instruct the compiler to use C calling conventions
extern "C" int GCD(int,int);
int main() {
    int num1, num2, result;

    cout << "Enter number1: ";
    cin >> num1;

    cout << "Enter number2: ";
    cin >> num2;

    result = GCD(num1, num2);
    cout << "GCD is: " << result;

    return 0;
}
```

Task 2 Assembly code

```asm
.CODE ;Indicates the start of a code segment.

GCD PROC, a:DWORD, b:DWORD
    mov eax, a
    mov ebx, b
    L1:
        cmp eax, ebx
        je done
        jb exg

        L2:
            div ebx
            cmp edx, 0
            je done
            mov eax, ebx
            mov ebx, edx
            jmp L1

        exg:
            xchg eax, ebx
        jmp L1

        done:
            mov eax, ebx
        ret

GCD ENDP

END
```

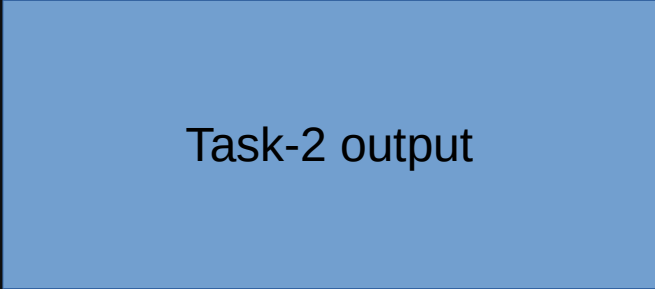**Microsoft Visual Studio Debug Console**

```
Enter number1: 25
Enter number2: 5
GCD is: 5
C:\Users\AA\source\repos\Assembly Practice\Debug\Assembly Practice.exe (process 1388) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

Task-2 output

Thank You

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