

FUNDAMENTALS OF PROGRAMMING

LAB TASK 7

ABDUL MOIZ 464834 SECTION B

```
#include<iostream>
#include<iomanip>
#include<string>
using namespace std;
int main()
{// Task # 1
int user[10];
    cout << "Enter values in array : ";
for (int i = 0; i <= 9; i++)
{

cin >> user[i];
}
for (int i = 0; i <= 9; i++)
{
cout << left << setw(3) << user[i];
}
return 0;
}
```

```
Microsoft Visual Studio Debug Console
Enter values in array : 4
5
6
7
8
9
4
3
2
1
4 5 6 7 8 9 4 3 2 1
E:\Mechanical Engineering\Semester 1\FOP\Assignment
To automatically close the console when debugging s
le when debugging stops.
Press any key to close this window . . .
```

```
{// Task # 2
```

```
int ele[5],a=0,b=1;
```

```
    cout << "Enter values in array : ";
```

```
for (int i = 0; i < 5; i++)
```

```
{
```

```
cin >> ele[i];
```

```
}
```

```
for (int i = 0; i < 5; i++)
```

```
{
```

```
a = a + ele[i];
```

```
}
```

```
cout <<"The sum of the integers is : "<< a<<endl;
```

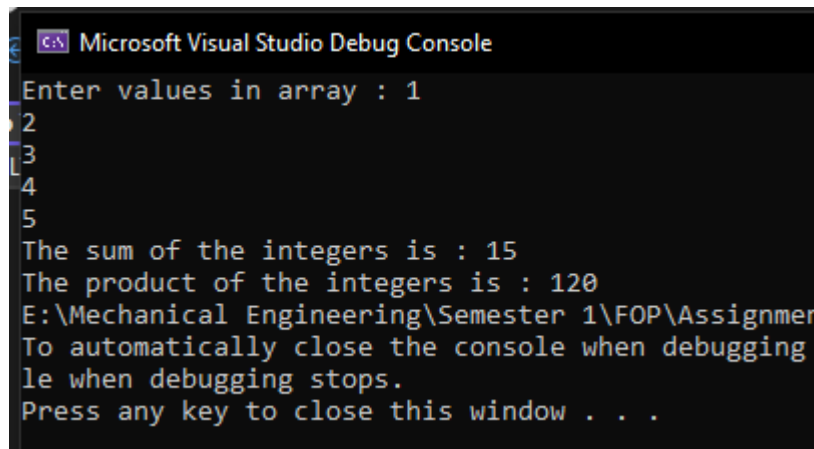
```
for (int i = 0; i < 5; i++)
```

```
{
```

```
b = b * ele[i];
```

```
}
```

```
cout << "The product of the integers is : " << b;
}
```

A screenshot of the Microsoft Visual Studio Debug Console window. The title bar reads "Microsoft Visual Studio Debug Console". The console output shows the program's execution: it prompts "Enter values in array : 1", followed by inputs "2", "3", "4", and "5". It then displays "The sum of the integers is : 15" and "The product of the integers is : 120". Below this, there is a file path "E:\Mechanical Engineering\Semester 1\FOP\Assignmen", a message "To automatically close the console when debugging", and a prompt "Press any key to close this window . . .".

```
Microsoft Visual Studio Debug Console
Enter values in array : 1
2
3
4
5
The sum of the integers is : 15
The product of the integers is : 120
E:\Mechanical Engineering\Semester 1\FOP\Assignmen
To automatically close the console when debugging
Press any key to close this window . . .
```

```
{// Task # 3
```

```
    int height = 9, h;
```

```
    h = height / 2;
```

```
    char D[9];
```

```
    // Initialize the array with spaces
```

```
    for (int i = 0; i <= height - 1; i++) {
```

```
        D[i] = ' ';
```

```
    }
```

```
    // Print the upper half of the diamond
```

```
    for (int i = 0; i <= h; i++) {
```

```
        for (int j = 0; j <= height - 1; j++) {
```

```
            if (j >= h - i && j <= h + i) {
```

```
                D[j] = '*';
```

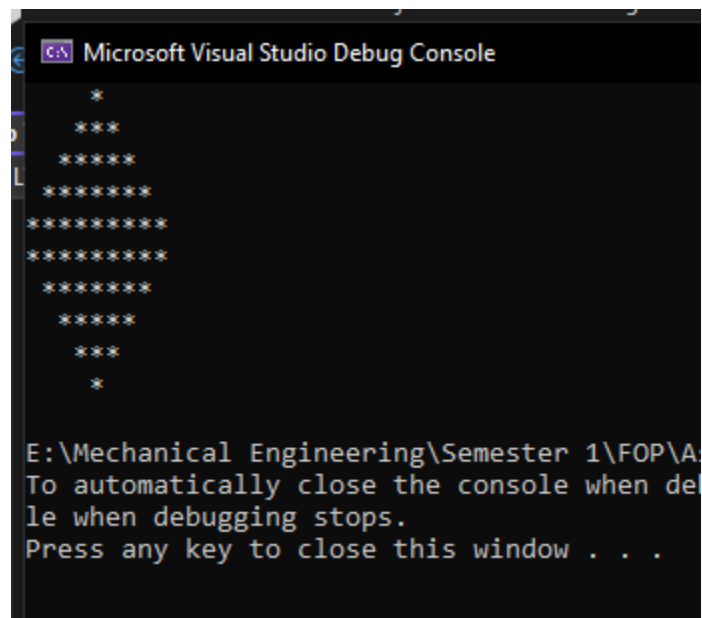
```
    }  
    else {  
        D[j] = ' '  
    }  
    cout << D[j];  
}  
cout << endl;  
}
```

// Print the lower half of the diamond

```
for (int i = 0; i <= h; i++) {  
    for (int j = 0; j <= height - 1; j++) {  
        if (j >= i && j <= height - 1 - i) {  
            D[j] = '*';  
        }  
        else {  
            D[j] = ' '  
        }  
        cout << D[j];  
    }  
    cout << endl;  
}
```

```
return 0;
```

}



```
Microsoft Visual Studio Debug Console

*
***
*****
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le when debugging stops.
Press any key to close this window . . .
```