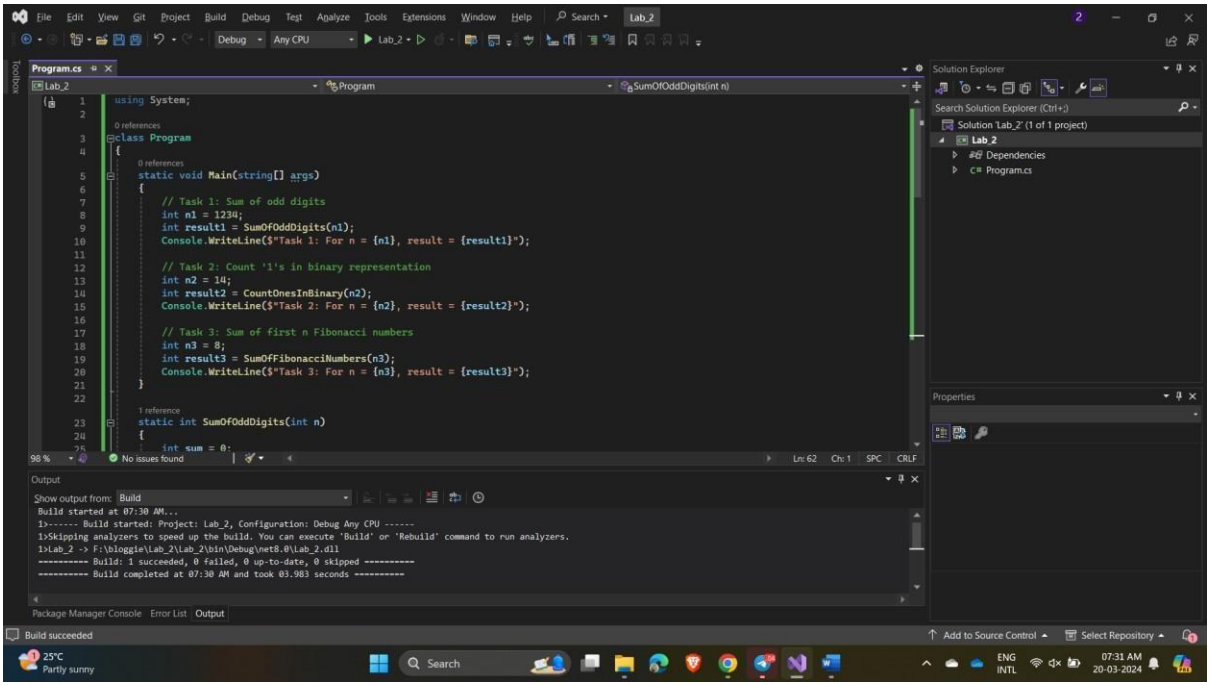
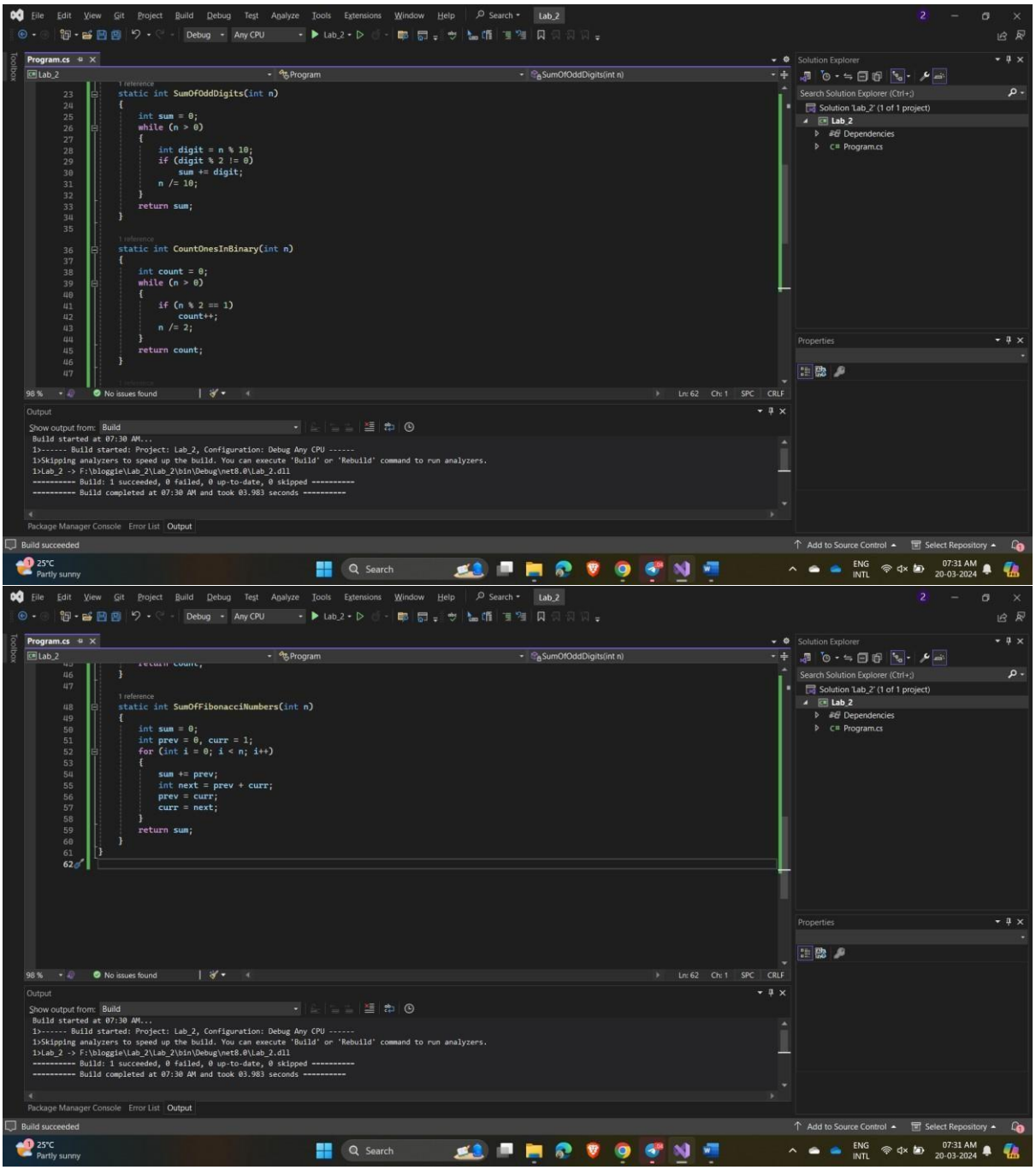
2100090166
J.KASAIAH

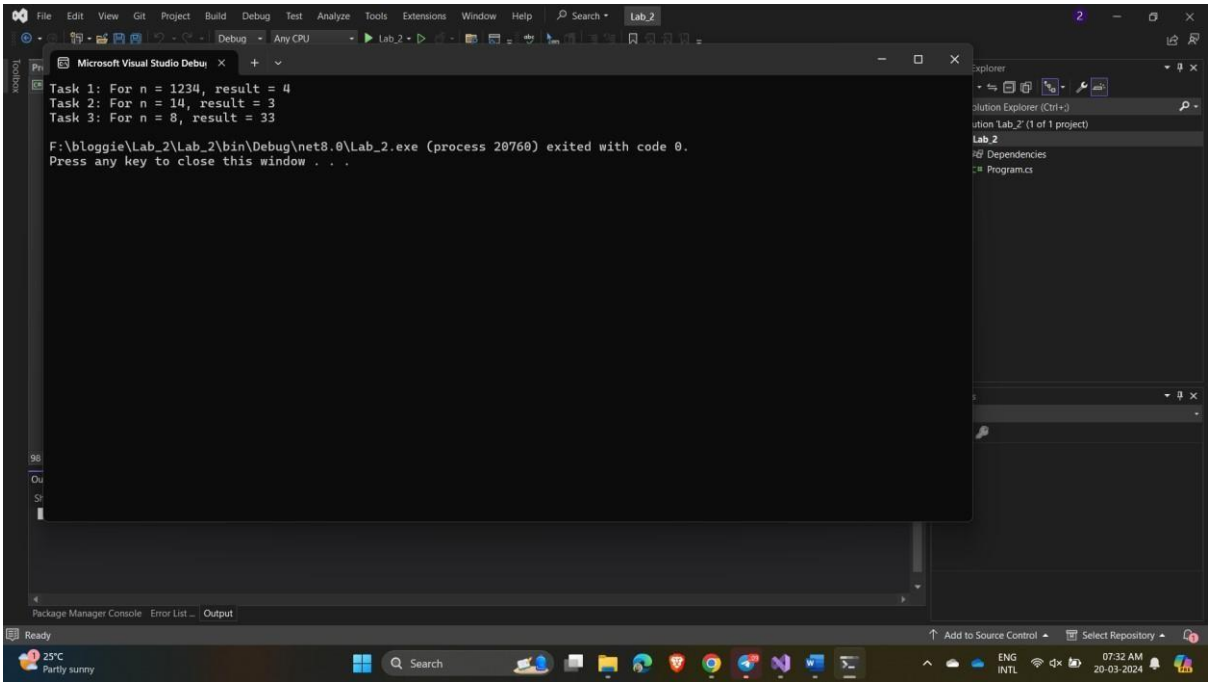
Lab2.1



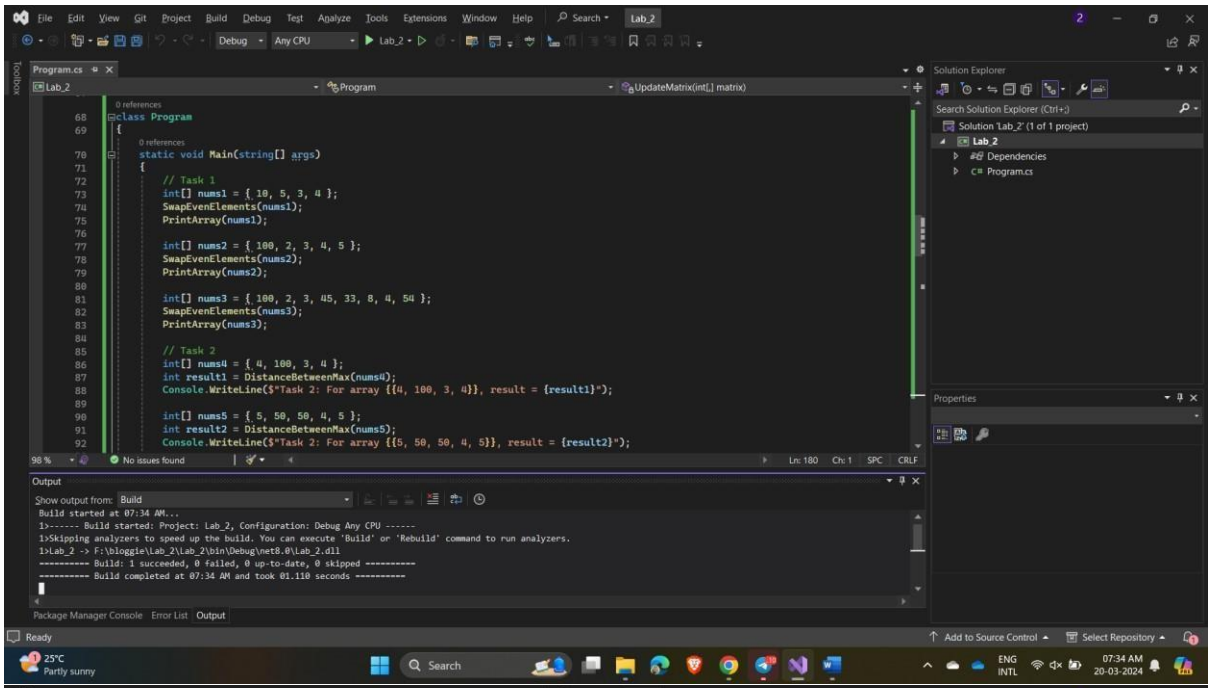

Program.cs
Lab_2
Program
SumOfOddDigits(int n)
1 reference
static int SumOfOddDigits(int n)
{
int sum = 0;
while (n > 0)
{
int digit = n % 10;
if (digit % 2 != 0)
sum += digit;
n /= 10;
}
return sum;
}
1 reference
static int CountOnesInBinary(int n)
{
int count = 0;
while (n > 0)
{
if (n % 2 == 1)
count++;
n /= 2;
}
return count;
}
No issues found
Output
Show output from: Build
Build started at 07:30 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:30 AM and took 03.983 seconds ==========
Package Manager Console
Error List
Output
Build succeeded
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:31 AM
20-03-2024

Program.cs
Lab_2
Program
SumOfOddDigits(int n)
1 reference
static int SumOfFibonacciNumbers(int n)
{
int sum = 0;
int prev = 0, curr = 1;
for (int i = 0; i < n; i++)
{
sum += prev;
int next = prev + curr;
prev = curr;
curr = next;
}
return sum;
}
}
No issues found
Output
Show output from: Build
Build started at 07:30 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:30 AM and took 03.983 seconds ==========
Package Manager Console
Error List
Output
Build succeeded
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:31 AM
20-03-2024

OUTPUT:

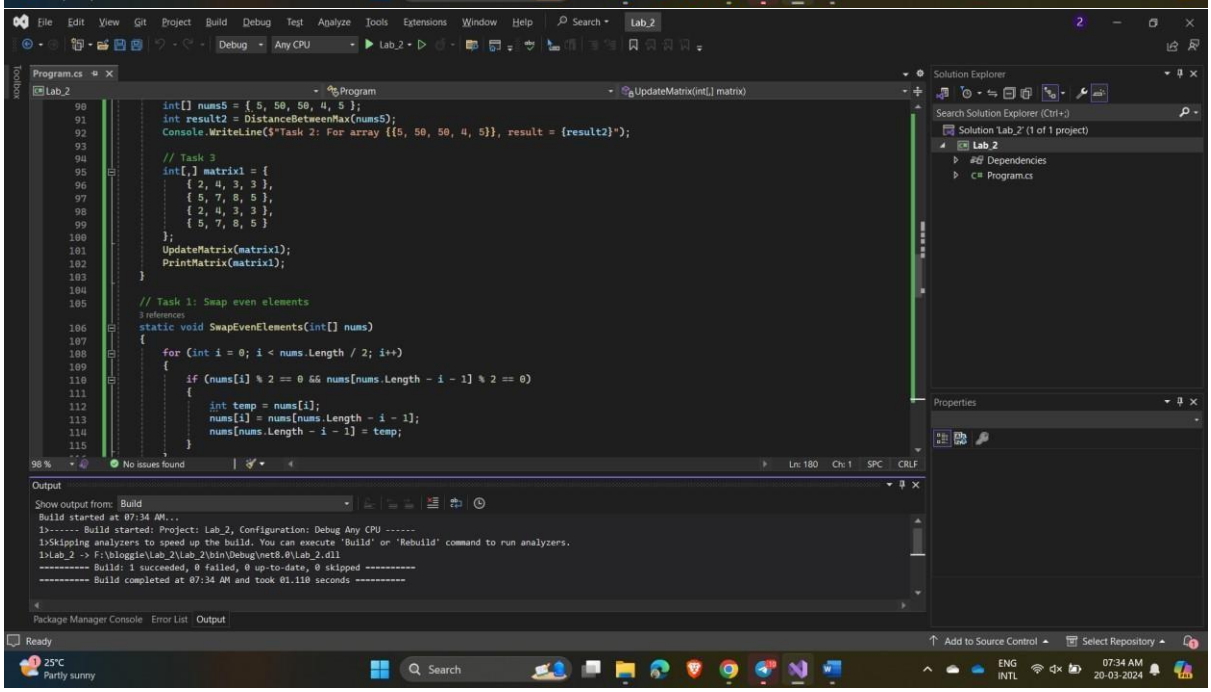

Microsoft Visual Studio Debu
Task 1: For n = 1234, result = 4
Task 2: For n = 14, result = 3
Task 3: For n = 8, result = 33
F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.exe (process 20760) exited with code 0.
Press any key to close this window . . .

LAB 2.2



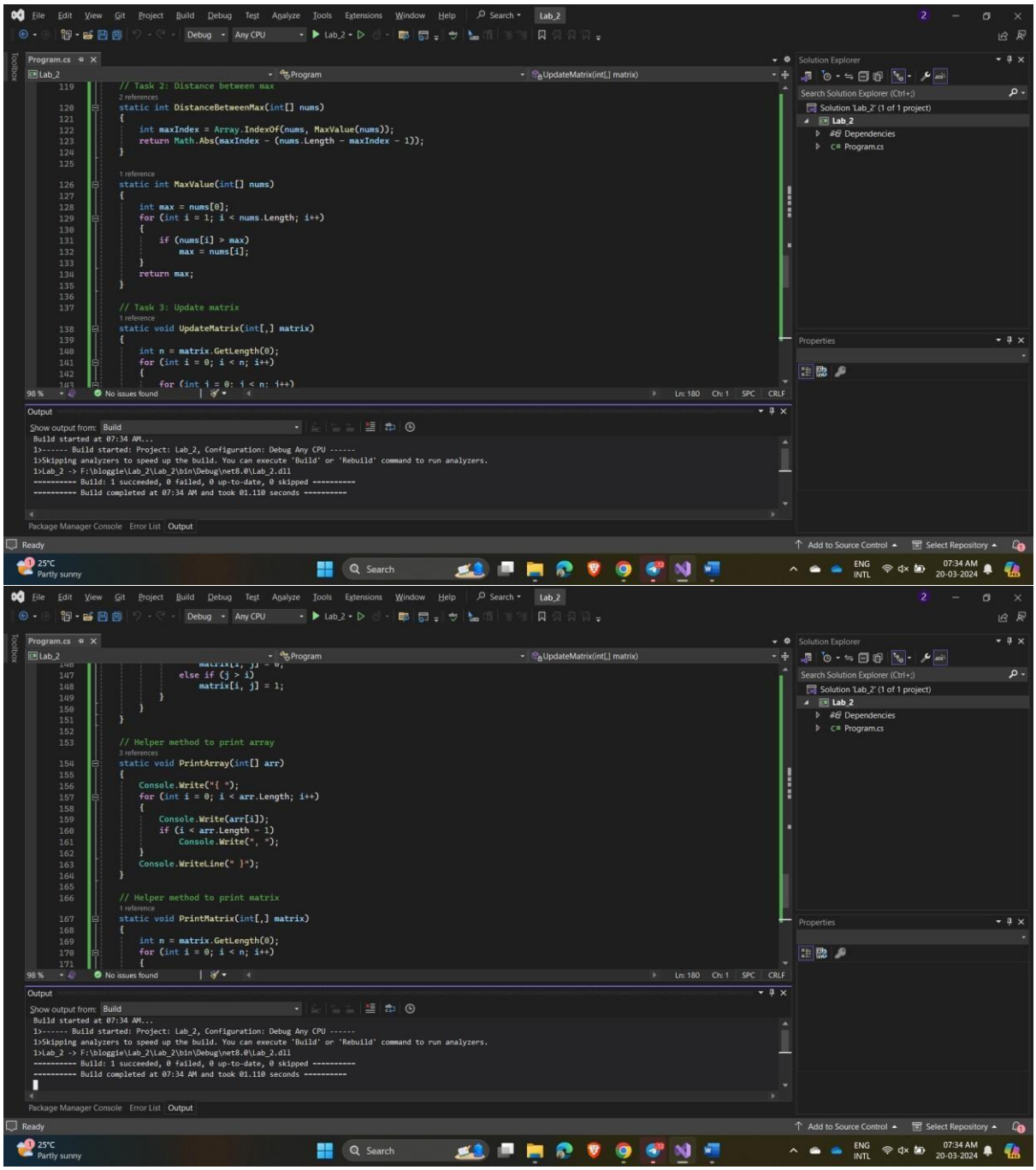
```
0 references
class Program
{
    0 references
    static void Main(string[] args)
    {
        // Task 1
        int[] nums1 = { 10, 5, 3, 4 };
        SwapEvenElements(nums1);
        PrintArray(nums1);

        int[] nums2 = { 100, 2, 3, 4, 5 };
        SwapEvenElements(nums2);
        PrintArray(nums2);

        int[] nums3 = { 100, 2, 3, 45, 33, 8, 4, 54 };
        SwapEvenElements(nums3);
        PrintArray(nums3);

        // Task 2
        int[] nums4 = { 4, 100, 3, 4 };
        int result1 = DistanceBetweenMax(nums4);
        Console.WriteLine($"Task 2: For array {{4, 100, 3, 4}}, result = {result1}");

        int[] nums5 = { 5, 50, 50, 4, 5 };
        int result2 = DistanceBetweenMax(nums5);
        Console.WriteLine($"Task 2: For array {{5, 50, 50, 4, 5}}, result = {result2}");
```

```
Build started at 07:34 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:34 AM and took 01.110 seconds ==========
```



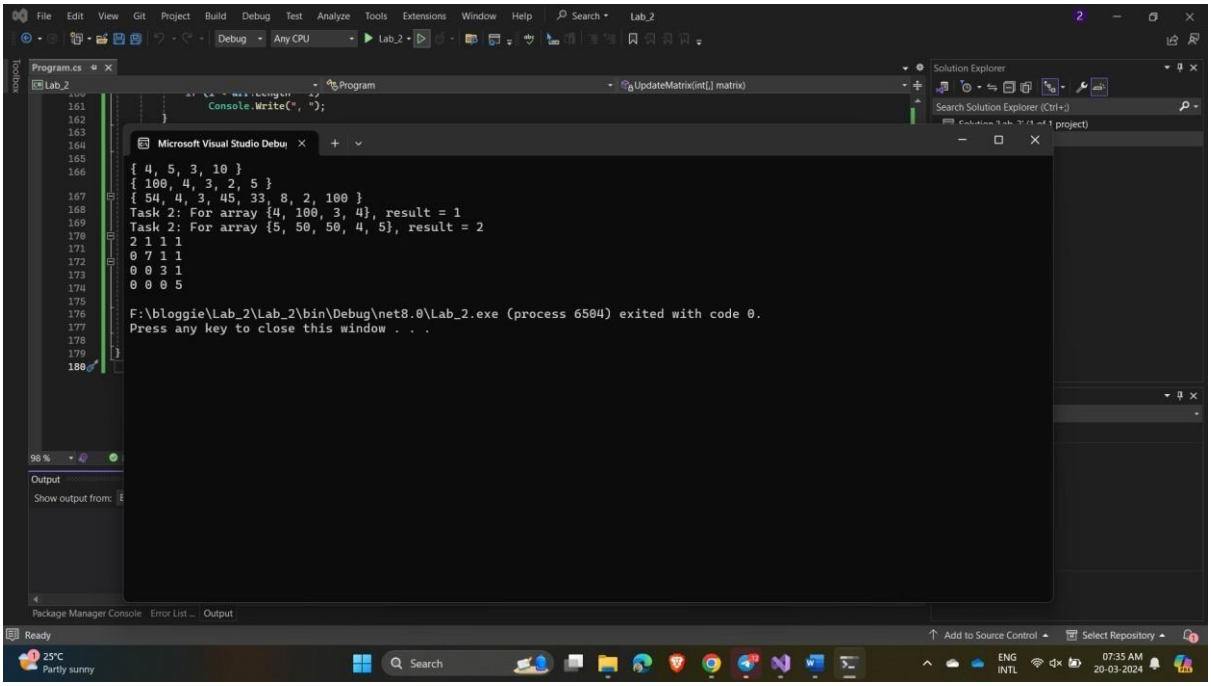
```
        int[] nums5 = { 5, 50, 50, 4, 5 };
        int result2 = DistanceBetweenMax(nums5);
        Console.WriteLine($"Task 2: For array {{5, 50, 50, 4, 5}}, result = {result2}");

        // Task 3
        int[,] matrix1 = {
            { 2, 4, 3, 3 },
            { 5, 7, 8, 5 },
            { 2, 4, 3, 3 },
            { 5, 7, 8, 5 }
        };
        UpdateMatrix(matrix1);
        PrintMatrix(matrix1);
    }

    // Task 1: Swap even elements
    3 references
    static void SwapEvenElements(int[] nums)
    {
        for (int i = 0; i < nums.Length / 2; i++)
        {
            if (nums[i] % 2 == 0 && nums[nums.Length - i - 1] % 2 == 0)
            {
                int temp = nums[i];
                nums[i] = nums[nums.Length - i - 1];
                nums[nums.Length - i - 1] = temp;
            }
```

```
Build started at 07:34 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:34 AM and took 01.110 seconds ==========
```

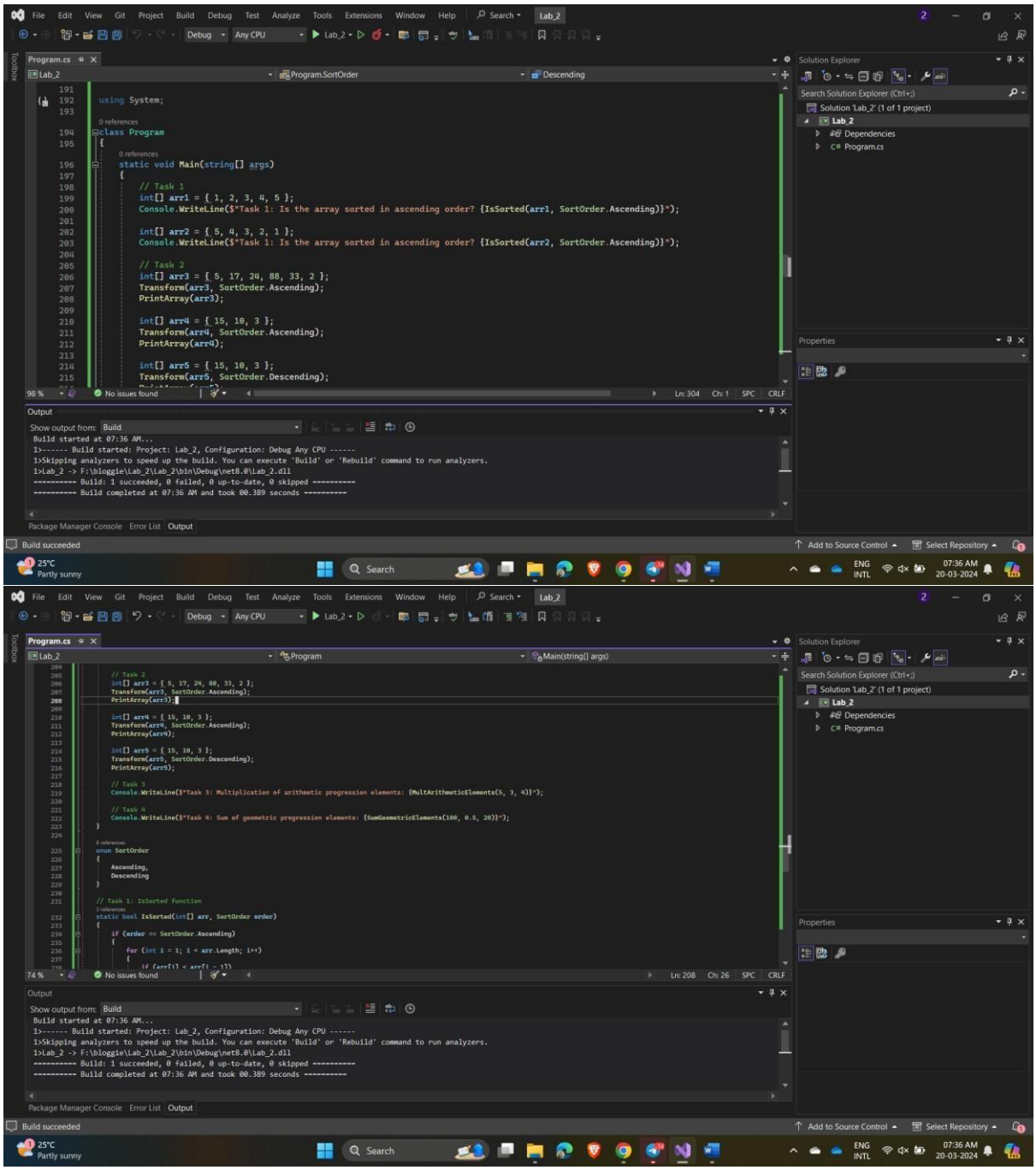

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search Lab_2
Debug Any CPU Lab_2
Program.cs
Lab_2 Program UpdateMatrix(int[,] matrix)
// Task 2: Distance between max
2 references
static int DistanceBetweenMax(int[] nums)
{
int maxIndex = Array.IndexOf(nums, MaxValue(nums));
return Math.Abs(maxIndex - (nums.Length - maxIndex - 1));
}
1 reference
static int MaxValue(int[] nums)
{
int max = nums[0];
for (int i = 1; i < nums.Length; i++)
{
if (nums[i] > max)
max = nums[i];
}
return max;
}
// Task 3: Update matrix
1 reference
static void UpdateMatrix(int[,] matrix)
{
int n = matrix.GetLength(0);
for (int i = 0; i < n; i++)
{
for (int j = 0; j < n; j++)
98 % No issues found Ln: 180 Ch: 1 SPC CRLF
Output
Show output from: Build
Build started at 07:34 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:34 AM and took 01.110 seconds ==========
Package Manager Console Error List Output
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
Ready
Add to Source Control Select Repository
25°C Partly sunny
Search
ENG INTL
07:34 AM 20-03-2024

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search Lab_2
Debug Any CPU Lab_2
Program.cs
Lab_2 Program UpdateMatrix(int[,] matrix)
matrix[i, j] = 0;
else if (j > i)
matrix[i, j] = 1;
}
}
}
// Helper method to print array
3 references
static void PrintArray(int[] arr)
{
Console.Write("{ ");
for (int i = 0; i < arr.Length; i++)
{
Console.Write(arr[i]);
if (i < arr.Length - 1)
Console.Write(", ");
}
Console.WriteLine(" }");
}
// Helper method to print matrix
1 reference
static void PrintMatrix(int[,] matrix)
{
int n = matrix.GetLength(0);
for (int i = 0; i < n; i++)
{
98 % No issues found Ln: 180 Ch: 1 SPC CRLF
Output
Show output from: Build
Build started at 07:34 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:34 AM and took 01.110 seconds ==========
Package Manager Console Error List Output
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
Ready
Add to Source Control Select Repository
25°C Partly sunny
Search
ENG INTL
07:34 AM 20-03-2024

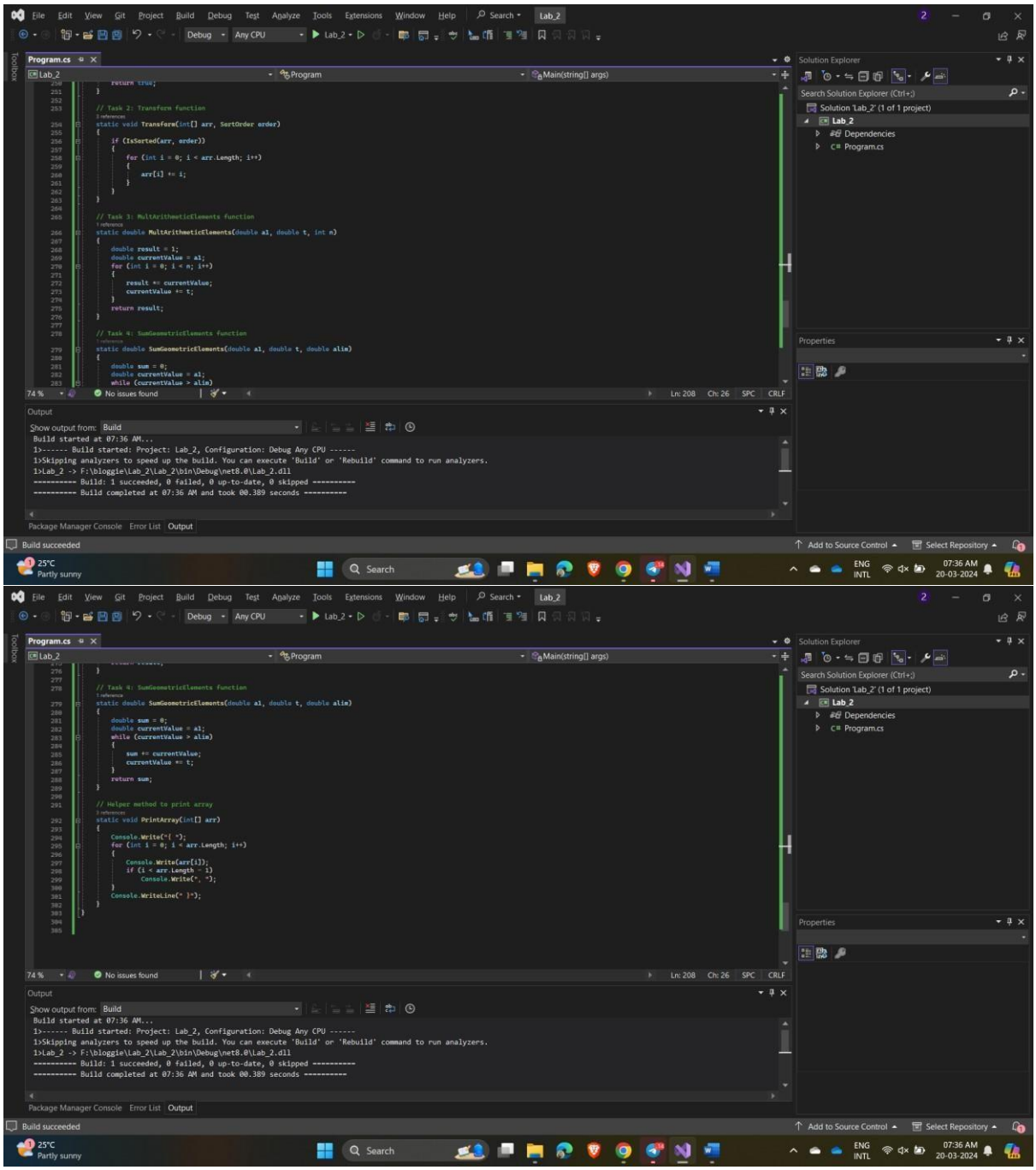
OUTPUT:



LAB – 2.3

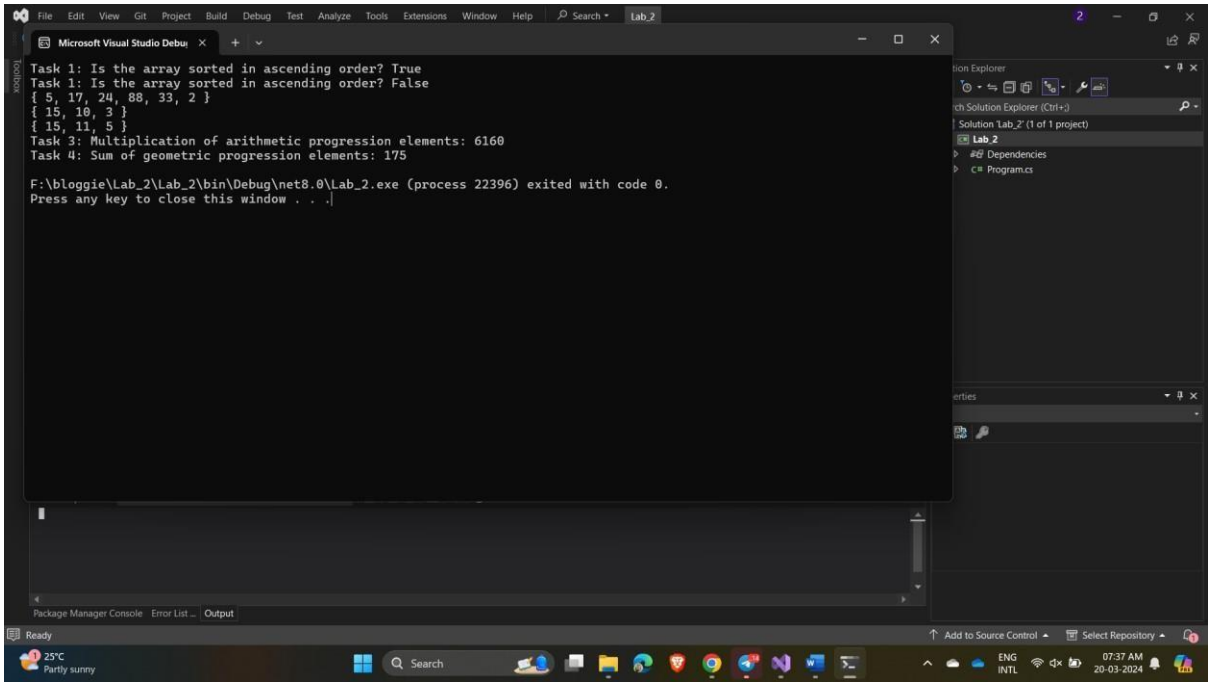

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Lab_2
Debug
Any CPU
Program.cs
Lab_2
Program.SortOrder
Descending
using System;
0 references
class Program
{
0 references
static void Main(string[] args)
{
// Task 1
int[] arr1 = { 1, 2, 3, 4, 5 };
Console.WriteLine($"Task 1: Is the array sorted in ascending order? {IsSorted(arr1, SortOrder.Ascending)}");
int[] arr2 = { 5, 4, 3, 2, 1 };
Console.WriteLine($"Task 1: Is the array sorted in ascending order? {IsSorted(arr2, SortOrder.Ascending)}");
// Task 2
int[] arr3 = { 5, 17, 24, 88, 33, 2 };
Transform(arr3, SortOrder.Ascending);
PrintArray(arr3);
int[] arr4 = { 15, 10, 3 };
Transform(arr4, SortOrder.Ascending);
PrintArray(arr4);
int[] arr5 = { 15, 10, 3 };
Transform(arr5, SortOrder.Descending);
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
No issues found
Ln: 304 Ch: 1 SPC CRLF
Output
Show output from: Build
Build started at 07:36 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:36 AM and took 00.389 seconds ==========
Package Manager Console
Error List
Output
Build succeeded
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:36 AM
20-03-2024

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Lab_2
Debug
Any CPU
Program.cs
Lab_2
Program
Main(string[] args)
// Task 2
int[] arr3 = { 5, 17, 24, 88, 33, 2 };
Transform(arr3, SortOrder.Ascending);
PrintArray(arr3);
int[] arr4 = { 15, 10, 3 };
Transform(arr4, SortOrder.Ascending);
PrintArray(arr4);
int[] arr5 = { 15, 10, 3 };
Transform(arr5, SortOrder.Descending);
PrintArray(arr5);
// Task 3
Console.WriteLine($"Task 3: Multiplication of arithmetic progression elements: {MultArithmeticElements(5, 3, 4)}");
// Task 4
Console.WriteLine($"Task 4: Sum of geometric progression elements: {SumGeometricElements(100, 0.5, 20)}");
}
0 references
enum SortOrder
{
Ascending,
Descending
}
// Task 1: IsSorted function
1 reference
static bool IsSorted(int[] arr, SortOrder order)
{
if (order == SortOrder.Ascending)
{
for (int i = 1; i < arr.Length; i++)
{
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
No issues found
Ln: 208 Ch: 26 SPC CRLF
Output
Show output from: Build
Build started at 07:36 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:36 AM and took 00.389 seconds ==========
Package Manager Console
Error List
Output
Build succeeded
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:36 AM
20-03-2024


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Lab_2
Debug
Any CPU
Lab_2
Program.cs
Lab_2
Program
Main(string[] args)
return true;
}
// Task 2: Transform function
1 reference
static void Transform(int[] arr, SortOrder order)
{
if (IsSorted(arr, order))
{
for (int i = 0; i < arr.Length; i++)
{
arr[i] += i;
}
}
}
// Task 3: MultArithmeticElements function
1 reference
static double MultArithmeticElements(double a1, double t, int n)
{
double result = 1;
double currentValue = a1;
for (int i = 0; i < n; i++)
{
result *= currentValue;
currentValue += t;
}
return result;
}
// Task 4: SumGeometricElements function
1 reference
static double SumGeometricElements(double a1, double t, double alim)
{
double sum = 0;
double currentValue = a1;
while (currentValue > alim)
74 %
No issues found
Ln: 208
Ch: 26
SPC
CRLF
Output
Show output from: Build
Build started at 07:36 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:36 AM and took 00.389 seconds ==========
Package Manager Console
Error List
Output
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
Build succeeded
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:36 AM
20-03-2024

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Lab_2
Debug
Any CPU
Lab_2
Program.cs
Lab_2
Program
Main(string[] args)
}
// Task 4: SumGeometricElements function
1 reference
static double SumGeometricElements(double a1, double t, double alim)
{
double sum = 0;
double currentValue = a1;
while (currentValue > alim)
{
sum += currentValue;
currentValue *= t;
}
return sum;
}
// Helper method to print array
3 references
static void PrintArray(int[] arr)
{
Console.Write("[");
for (int i = 0; i < arr.Length; i++)
{
Console.Write(arr[i]);
if (i < arr.Length - 1)
Console.Write(", ");
}
Console.WriteLine("]");
}
}
74 %
No issues found
Ln: 208
Ch: 26
SPC
CRLF
Output
Show output from: Build
Build started at 07:36 AM...
1>------ Build started: Project: Lab_2, Configuration: Debug Any CPU ------
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>Lab_2 -> F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Build completed at 07:36 AM and took 00.389 seconds ==========
Package Manager Console
Error List
Output
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Lab_2' (1 of 1 project)
Lab_2
Dependencies
Program.cs
Properties
Build succeeded
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:36 AM
20-03-2024

OUTPUT:


Microsoft Visual Studio Debu
Task 1: Is the array sorted in ascending order? True
Task 1: Is the array sorted in ascending order? False
{ 5, 17, 24, 88, 33, 2 }
{ 15, 10, 3 }
{ 15, 11, 5 }
Task 3: Multiplication of arithmetic progression elements: 6160
Task 4: Sum of geometric progression elements: 175
F:\bloggie\Lab_2\Lab_2\bin\Debug\net8.0\Lab_2.exe (process 22396) exited with code 0.
Press any key to close this window . . .
Package Manager Console
Error List ...
Output
Ready
Add to Source Control
Select Repository
25°C
Partly sunny
Search
ENG
INTL
07:37 AM
20-03-2024