

Day 6 morning assignment

Program for sum of numbers using ArrayList

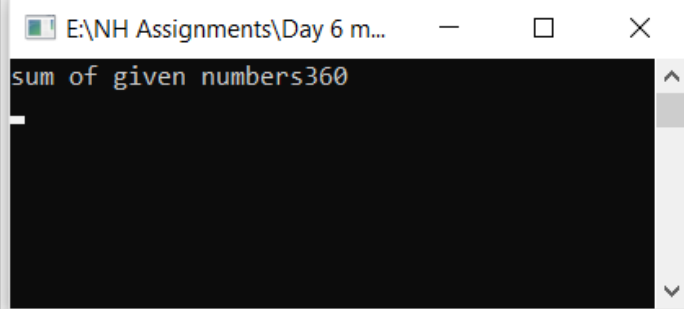
Code:

```
using System;
using System.Collections;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_6_Project_1
{
    internal class Program
    {
        static void Main(string [] args)
        {
            ArrayList data = new ArrayList();
            int sum = 0;
            data.Add(50);
            data.Add(61);
            data.Add(72);
            data.Add(83);
            data.Add(94);

            foreach(var d in data)
            {
                sum = sum + (int) d;
            }
            Console.WriteLine("sum of given numbers" + sum);
            Console.ReadLine();
        }
    }
}
```

Output :

A screenshot of a Windows console window. The title bar shows the file path 'E:\NH Assignments\Day 6 m...'. The console output displays 'sum of given numbers360' on a single line. The background of the console is black, and the text is white. There are standard window controls (minimize, maximize, close) in the title bar.

Program to declare List<int> read 5 values from user.

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_6_project_3
{
    internal class Program
    {
        static void Main (string [] args)
        {
            List<int> data = new List<int> ();
            int temp;
            int sum1=0, sum2=0, sum3=0;

            //Read 5 numbers from user

            for (int i=1; i<=5; i++)
            {
                Console.WriteLine("Enter any value: ");
```

```

        temp = Convert.ToInt32(Console.ReadLine());
        data.Add(temp);
    }

    //using for loop
    for (int i = 0; i < data.Count; i++)
        sum1 = sum1 + data[i];
    //using foreach loop
    foreach (var d in data)
        sum2 = sum2 + d;

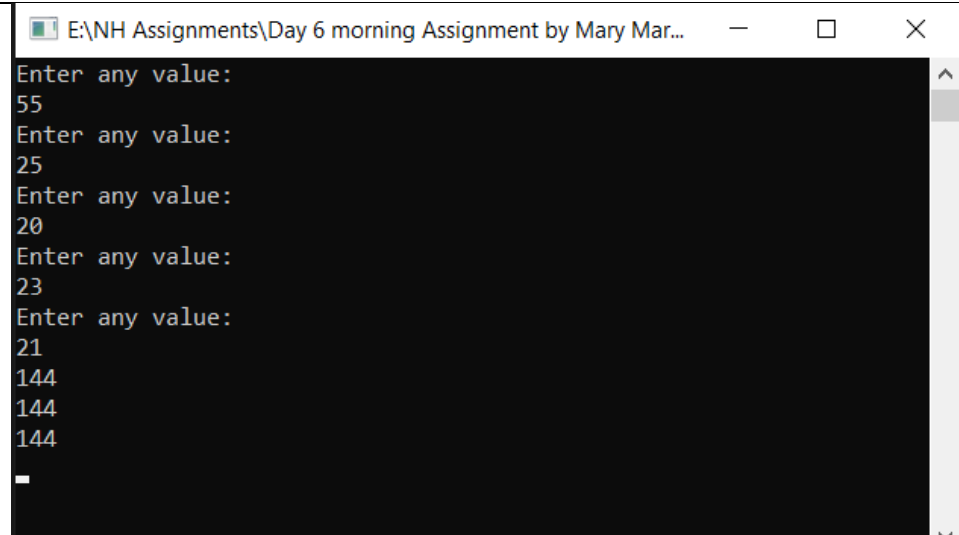
    // using lamda function
    data.ForEach(d => sum3 = sum3 + d);

    Console.WriteLine(sum1);
    Console.WriteLine(sum2);
    Console.WriteLine(sum3);

    Console.ReadLine();
}
}
}

```

Output:



```

E:\NH Assignments\Day 6 morning Assignment by Mary Mar...
Enter any value:
55
Enter any value:
25
Enter any value:
20
Enter any value:
23
Enter any value:
21
144
144
144
_

```

Program for Implicit and Explicit types:

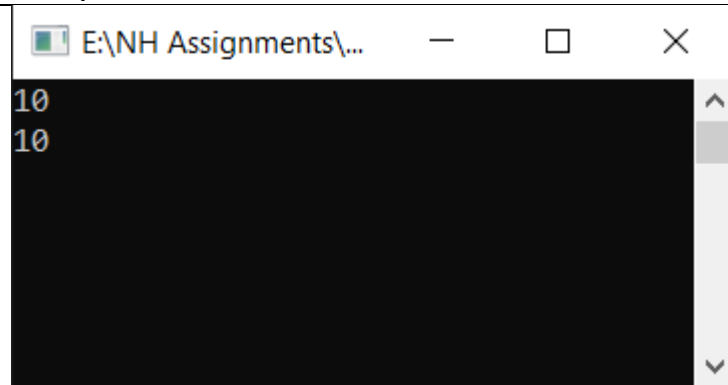
Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_6_Project_4
{
    internal class Program
    {
        static void Main (string [] args)
        {
            short p = 10;
            int q = p;
            Console.WriteLine(p);
            Console.WriteLine(q);
            Console.ReadLine();

            int a = 5;
            short b= Convert.ToInt16(a);
            Console.WriteLine(a);
            Console.WriteLine(b);
            Console.ReadLine();
        }
    }
}
```

Output:



Program to declare List<string>

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_6_Project_5
{
    internal class Program
    {
        static void Main(string[] args)
        {
            List<string> data = new List<string>();
            data.Add("Margaret");
            data.Add("Rajendra");
            data.Add("Tejaswi");
            data.Add("Reshma");
            data.Add("Sirisha");

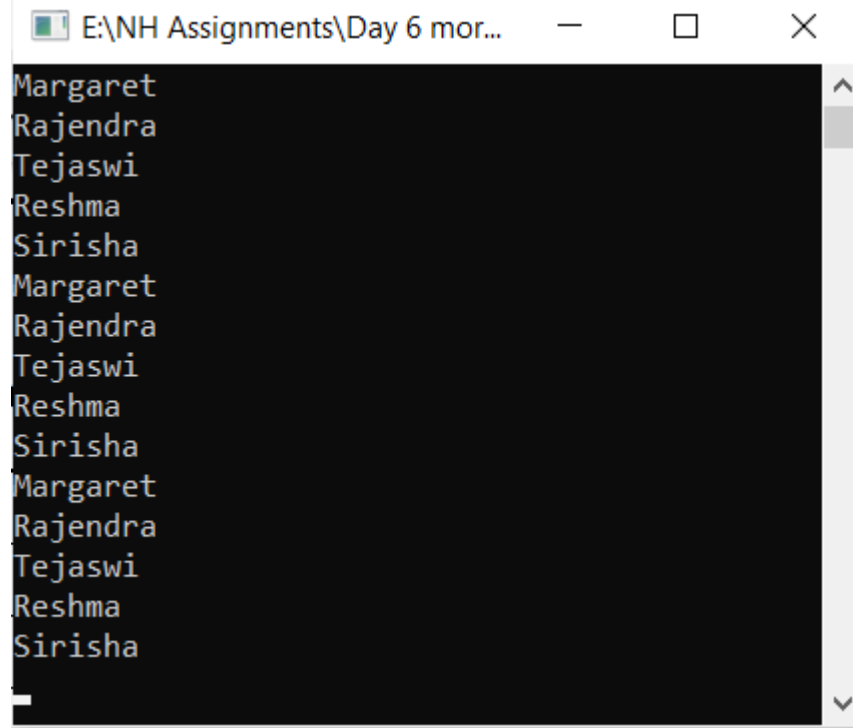
            //using for loop
            for (int i = 0; i < data.Count; i++)
                Console.WriteLine(data[i]);

            //using foreach loop
            foreach (var d in data)
                Console.WriteLine(d);

            // using lamda function
            data.ForEach(d => Console.WriteLine(d));
```

```
        Console.ReadLine();  
    }  
}  
}
```

Output:



The screenshot shows a console window titled "E:\NH Assignments\Day 6 mor...". The console output displays a list of names: Margaret, Rajendra, Tejaswi, Reshma, Sirisha, repeated five times. The names are listed vertically, one per line, in a monospaced font. The window has a standard Windows title bar with minimize, maximize, and close buttons.

Program for sum of numbers using List<String>

Code:

```
using System;  
using System.Collections.Generic;  
using System.Linq;  
using System.Text;  
using System.Threading.Tasks;  
  
namespace Day_6_project_2  
{  
    internal class Program  
    {  
        static void Main(string[] args)
```

```

{
    List<int> data = new List<int>();
    int sum = 0;
    data.Add(1);
    data.Add(2);
    data.Add(3);
    data.Add(4);
    data.Add(5);

    // print values using foreach loop
    foreach (var d in data)

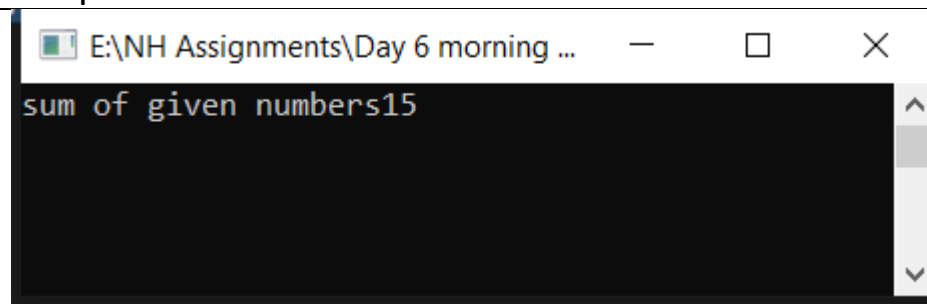
    {
        sum = sum + (int)d;
    }

    Console.WriteLine("sum of given numbers" + sum);

    Console.ReadLine();
}
}
}

```

Output:



The screenshot shows a console window with a title bar that reads "E:\NH Assignments\Day 6 morning ...". The window has standard minimize, maximize, and close buttons. The console output displays the text "sum of given numbers15" on a single line. The text is rendered in a monospaced font, with "sum of given numbers" in a lighter color and "15" in a darker color. The console background is black, and the text is white. There is a vertical scrollbar on the right side of the console window.

What are the disadvantages of Array List

(Collection array list)?

- If there is a chance of assigning a wrong datatype then we may get runtime errors. Running time errors are dangerous than compile time errors.
- For every compilation we have to unbox the value from reference address.

Write the difference between Collections and Generics?

	Collections	Generics
namespace	System.Collections;	System.Collections.Generic;
Each element is of what type	Object	It can store any elements based on input.
Do you need Type casting	Yes, we need Typecasting because values are stored in heap memory.	No, we don't need type casting because values are stored in stack memory.
Example :	ArrayList data =new ArrayList();	List<int>data=new List<int>();

Data types and Alias names:

Data Type	Alias Name
-----------	------------

byte	Byte
ushort	UInt16
uint	UInt32
ulong	UInt64
sbyte	SByte
short	Int16
int	Int32
long	Int64
float	Single
double	Double
decimal	Decimal
char	Char
String	String
bool	Boolean

How the values of ArrayList are stored in memory?

- In ArrayList boxed values are stored in heap memory, unboxed values are stored in stack memory.
- Values stored in ArrayList are boxed into object type then we use unboxing.

How the values of List <T> are stored in memory?

- The values in List <T> are stored in managed heap memory.
 - List<T> stores objects of the same type.