ASSIGNMENT
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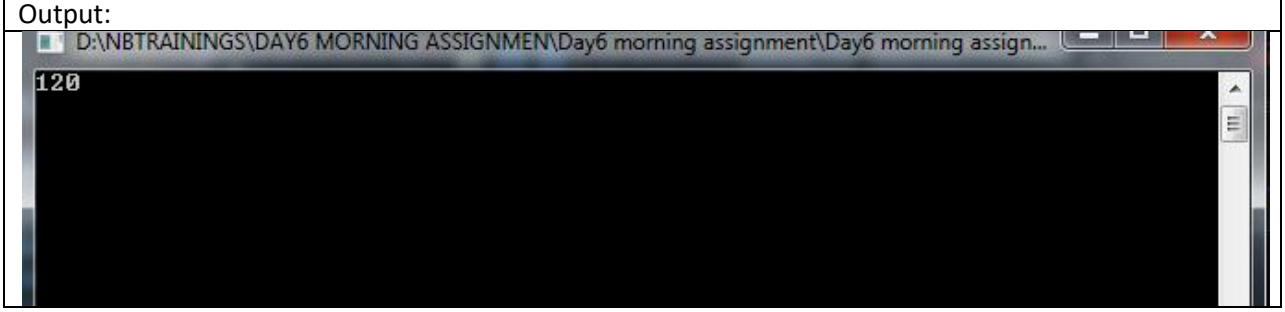
Q1.Write a simple program to declare ArrayList assign some values and find sum

Code:

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

namespace Day6_morning_assignment
{
    internal class Program
    {
        static void Main(string[] args)
        {
            ArrayList data = new ArrayList();
            int sum = 0;


            data.Add(10);
            data.Add(20);
            data.Add(30);
            data.Add(40);
            data.Add(20);

            foreach(var d in data)
            {
                sum = sum + (int)d;

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

Output:



Q2. Reasearch and find how the values of Arraylist are stored in the memory

* ArrayList changes memory allocation as it grows.

*When we specify the capacity while initializing the ArrayList, it allocates enough memory to store objects up to that capacity. The logical size remains 0. When it is time to expand the capacity, a new, larger array is created, and the values are copied to it

Q3. Disadvantages of collection array list:

1. when we run program without any compiler error we gets Runtime error which is very hard to identify.

2. The values in array list are of object type we have to unboxing everyime.

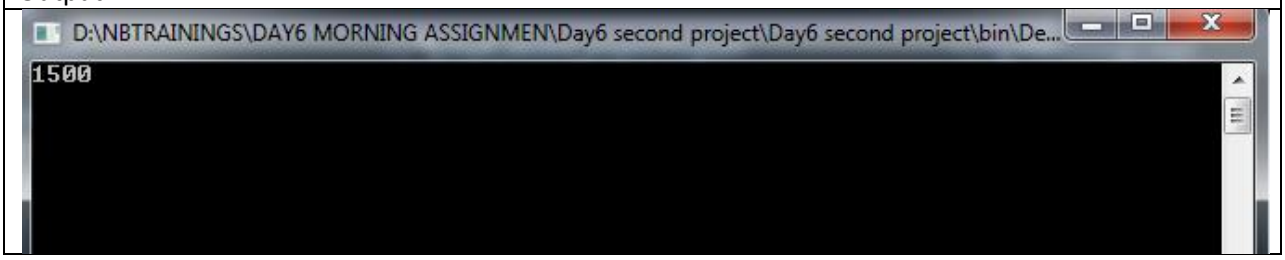
Q4.write a simple program to declare List<int> and assign some values and find sum

Code:

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

namespace Day6_second_project
{
    internal class Program
    {
        static void Main(string[] args)
        {
            List<int> data = new List<int>();
            int sum = 0;
            data.Add(100);
            data.Add(300);
            data.Add(200);
            data.Add(400);
            data.Add(500);
             foreach(var d in data)
            {
                sum = sum + d;
```

```
            Console.WriteLine(sum);

            Console.ReadLine();

        }
    }
}
```

Output:



Q5. Write the difference between collections and Generics

TYPE	COLLECTION	GENERICS
NAME SPACE	System.collection	System.Collection.Generic
ELEMENTS	Objects data type	Common type
TYPECASTING	Yes requires unboxing	Not required unboxing
EXAMPLES	Arraylist data =new Arraylist();	List <int> data = new <int>();

Q6. How values of List <T> stored in memory

* Lists are stored in disinct chunks of memory which are linked together with pointer,which enables effecient use of memory generally does not requires Resizing.

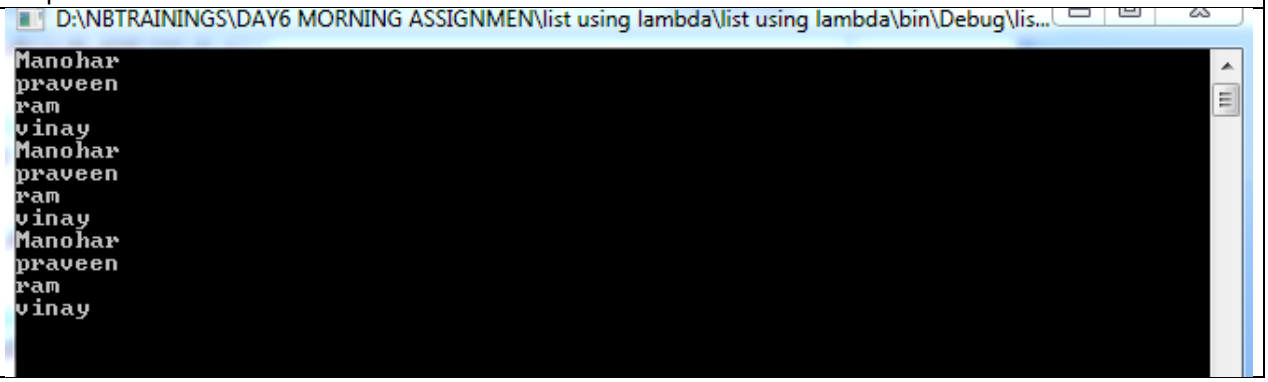
Q7. WACP to declear List<string> and add 5 values and print the values using
a.for loop
b.foreach loop
c.lambda expression

Code:

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

namespace list_using_lambda
{
   internal class Program
   {
      static void Main(string[] args)
      {
         List<string> data = new List<string>();
         data.Add ("Manohar");
         data.Add("praveen");
         data.Add("ram");
         data.Add("vinay");

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

         }
          //print values foreach loop
          foreach(var d in data)
```

```
        {
            Console.WriteLine(d);

        }
         //print using lambda
         data.ForEach(p=>Console.WriteLine(p));


         Console.ReadLine();


     }
   }
}
```

Output:



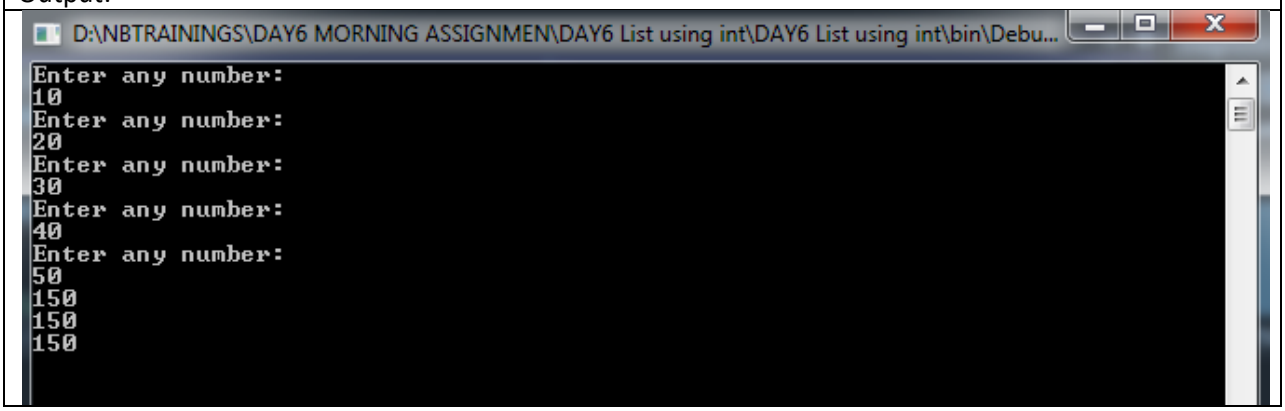
Q8. WACP to declear List<int> and add 5 values and print the values using
a.for loop
b.foreach loop
c.lambda expression

Code:

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

namespace DAY6_List_using_int
{
   internal class Program
   {


        static void Main(string[] args)
        {
            List<int> data = new List<int>();
            int temp;
            int sum1 = 0; int sum2 = 0; int sum3 = 0;
```

```
            //Read data from user
            for (int i = 1; i<=5 ; i++)

            {
               Console.WriteLine("Enter any number:");
               temp = Convert.ToInt32(Console.ReadLine());
               data.Add(temp);

            }
            // using forloop
            for(int i = 0; i<data.Count; i++)

        {
            sum1 = sum1 + data[i];
        }

        //sum  using  foreach loop
        foreach (var d in data)

        {
            sum2 = sum2 + d;

            }
            //print using lambda expression
            data.ForEach(p =>  sum3 = sum3+ p);


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


        }
    }
}
```

Output:



Q.9 Write c# data types and its alias names

Data types	Alias Names
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

Q10.Write examples for implicit and explici casing

Code:

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

namespace Typecasting
{
internalclassProgram
   {
staticvoid Main(string[] args)
      {
//Implicit Casting
int a = 10;
long b = a;
Console.WriteLine(b);

//Explicit Casting
long c = 22;
int d = (int)c;
```

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

Outtput: