```csharp
//Lab Exercise 6.3.2024 Problem 1
//Author: nmessa

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Problem_1
{
    class Program
    {
        static void Main(string[] args)
        {
            int count = 0;
            List<int> picks = new List<int>();
            int powerBall;
            int temp;
            Random r = new Random();

            //Generate 5 numbers
            while (count <= 5)
            {
                temp = r.Next(1,70);
                if (!picks.Contains(temp))
                {
                    picks.Add(temp);
                    count++;
                }
            }

            //Sort the list
            picks.Sort();

            //Pick the PowerBall
            powerBall = r.Next(1,27);

            //Print the picks and the PowerBall
            printLottery(picks, powerBall);
        }
```

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        //This function prints out your lottery pick
        static void printLottery(List<int> p, int pb)
        {
            Console.Write("Your lottery pick is: ");
            for (int i = 0; i < 5; i++)
            {
                Console.Write(p[i] + " ");
            }
            Console.WriteLine();
            Console.WriteLine("Your PowerBall is: " + pb);
        }
    }
}
```

```csharp
//Lab Exercise 6.3.2024 Problem 2
//Author: nmessa

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Problem_2
{
    class Program
    {
        static void Main(string[] args)
        {
            string[] numWords = new string[] {"ZERO", "ONE", "TWO", "THREE", "FOUR", "FIVE", "SIX",
                "SEVEN", "EIGHT", "NINE"};
            string number;
            int temp;

            //Get number from user
            Console.Write("Enter a number");
            number = Console.ReadLine();

            for (int i = 0; i < number.Length; i++)
            {
                if (Char.IsDigit(number[i]))
                {
                    temp = Convert.ToInt32(number[i]) - 48;
                    Console.Write(numWords[temp] + " ");
                }
                else
                {
                    Console.Write(number[i]);
                }
            }
            Console.WriteLine();
        }
    }
}
```

```csharp
//Lab Exercise 6.3.2024  Problem 3
//Author: nmessa

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Problem_3
{
    class Program
    {
        static void Main(string[] args)
        {
            for (int i = 1; i <= 1000; i++)
            {
                if (isHappy(i))
                    Console.Write(i + " ");
            }
            Console.WriteLine();
        }

        static bool isHappy(int num)
        {
            //Create an empty list to hold results
            List<int> sad = new List<int>();

            //Initialize total to 0
            int total = 0;

            //Convert number being tested into a string
            string sNum = num.ToString();

            while (true)
            {

                //Calculate total
                for (int i = 0; i < sNum.Length; i++)
                {
                    int digit = Convert.ToInt32(sNum[i]) - 48;
                    total += (digit * digit);
                }
```

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                //return True if the total is 1
                if (total == 1)
                {
                    return true;
                }

                //check to see if total is in sad list
                //if it is, return False since it
                //will start repeating forever
                //if total is not in sad list, add it to
                //the sad list
                if (sad.Contains(total))
                    return false;
                else
                    sad.Add(total);

                //Convert total to a string
                sNum = total.ToString();

                //Reset total to 0
                total = 0;
            }
        }
    }
}
```

```csharp
//Lab Exercise 6.3.2024 Problem 4
//Author: nmessa

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Problem_4
{
    class Program
    {
        static void Main(string[] args)
        {
            for (int i = 1; i <= 10000; i++)
            {
                if (isPerfect(i))
                {
                    Console.Write(i + " ");
                }
            }
            Console.WriteLine();
        }

        static bool isPerfect(int num)
        {
            int total = 0;

            //Find the total of all of the divisors
            for (int div = 1; div < num; div++)
            {
                if (num%div == 0)
                    total += div;
            }

            if (total == num)
                return true;
            else
                return false;
        }
    }
}
```