

# תרגיל מס' 1 – Assemblies ושפת C#

## חלק 1 – גשש בלש

1. האם הקובץ הזה הוא .NET Assembly? כן.

האם קובץ זה מהווה .NET PE? כן.

נימוק:

ביוון שניתן לפתוח את הקובץ הנ"ל דרך ildasm, הקובץ הינו .NET ASSEMBLY. היות וניתן לראות בmanifest את ה- Header, Manifest, Instructions הקובץ הוא PE וגם עצם זה שאפשר להריץ את הקובץ בפני עצמו מצביע על כך שקיימת פונק' main שמהווה את הנק' בניסה לתכנית.

תארו את ה- Assembly:

- שמו – B20\_Ex01.
- גרסא – 20.2.1.29377.
- בmanifest תחת scope של B20\_Ex01 assembly.
- באילו assemblies אחרים הוא משתמש?
- שם:mscorlib גרסא: 2.0.0.0
- שם: System.Xml גרסא: 2.0.0.0

2.

Type (Struct/Class/Enum)	Name	Members (Methods, Fields)
Class	B2020.Ex01.DemosManager	<ul style="list-style-type: none"><li>• public void .ctor() - Constructor</li><li>• public static void RunDemoApp()</li><li>• private static void displayOptions()</li><li>• private static bool manageLogin()</li><li>• private static B2020.Ex01.DemosManager/eDemoProgram retrieveUserSelection()</li></ul>
Class	Programs	<ul style="list-style-type: none"><li>• public void .ctor() - Constructor</li><li>• public static void RunBinaryCheck ()</li><li>• public static void RunSandMachineProgram ()</li><li>• private static bool checkIfAscendingSeries (string)</li><li>• private static bool checkIfDescendingSeries (string)</li><li>• private static void drawSandMachine (int32)</li><li>• private static int32 generateLineOfAstrix (class [mscorlib]System.Text.StringBuilder, int32, int32)</li><li>• private static string getInputFromUser (int32)</li></ul>
Enum	eDemoProgram	<ul style="list-style-type: none"><li>• public void .ctor() - Constructor</li><li>• public static int32 BinaryCheck()</li><li>• public static int32 Quit()</li><li>• public static int32 StarClock()</li><li>• public static void Value__()</li></ul>

Class	B2020.Ex01.Program	<ul style="list-style-type: none"> <li>• public void .ctor() - Constructor</li> <li>• public static void Main()</li> </ul>
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3. שם משתמש – DN-Ex01-B2020.

סיסמא – .C# rocks!

## חלק 2 – תכנות בסיסי (Screenshots)

### 1. סדרות בינאריות

```

C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_1\bin\Debug\B20_Ex01_1.exe
Enter 3 positive 9 length binary numbers follow by ENTER
First number:
111011000
Second number:
111010010
Third number:
111010100
Your numbers are: '472', '466' and '468'
*****
Statics:
*****
Average zeros is: 4.00
Average ones is: 5.00
There are '0' numbers which is power of 2
There are '1' numbers which is increasing series in decimal
Maximum number is: 472
Minimum number is: 466
That's it, press any letter to exit

```

```

C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_1\bin\Debug\B20_Ex01_1.exe
Enter 3 positive 9 length binary numbers follow by ENTER
First number:
001110000
Second number:
010000000
Third number:
001001110
Your numbers are: '112', '128' and '78'
*****
Statics:
*****
Average zeros is: 6.33
Average ones is: 2.67
There are '1' numbers which is power of 2
There are '2' numbers which is increasing series in decimal
Maximum number is: 128
Minimum number is: 78
That's it, press any letter to exit

```

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_1\bin\Debug\B20_Ex01_1.exe
Enter 3 positive 9 length binary numbers follow by ENTER

First number:
011010110

Second number:
110011110

Third number:
101111110

Your numbers are: '214', '414' and '382'

*****
Statics:
*****

Average zeros is: 3.00
Average ones is: 6.00

There are '0' numbers which is power of 2
There are '0' numbers which is increasing series in decimal

Maximum number is: 414
Minimum number is: 214

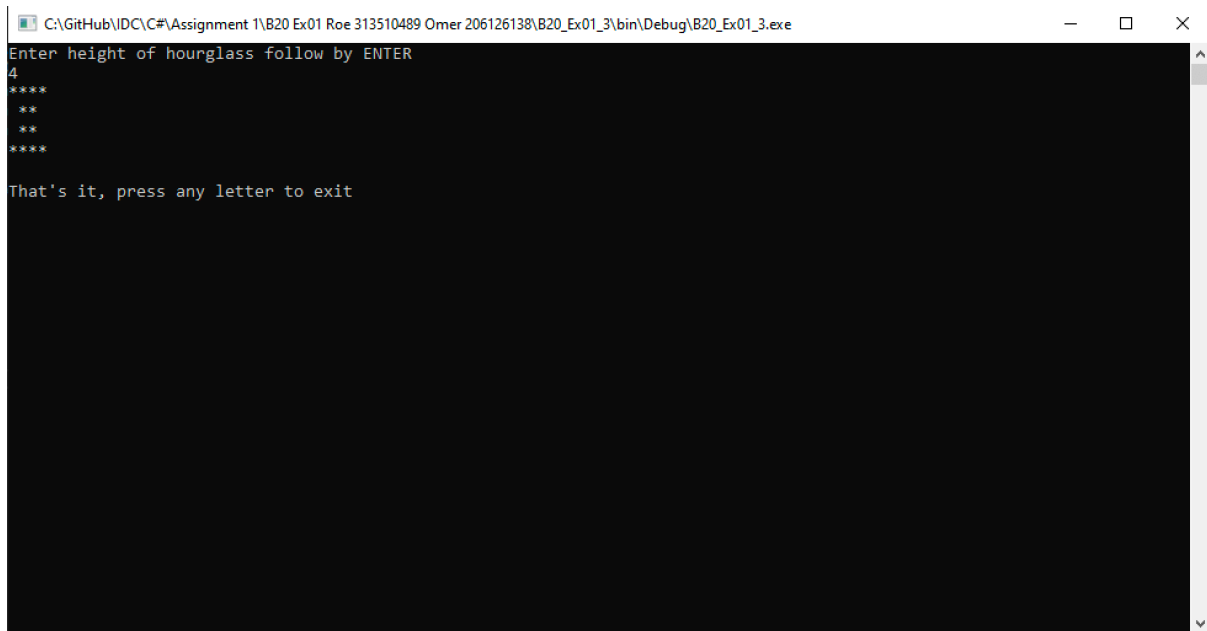
That's it, press any letter to exit
```

## 2. שיעון חול למתחילים

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_2\bin\Release\B20_Ex01_2.exe
*****
***
*
***
*****

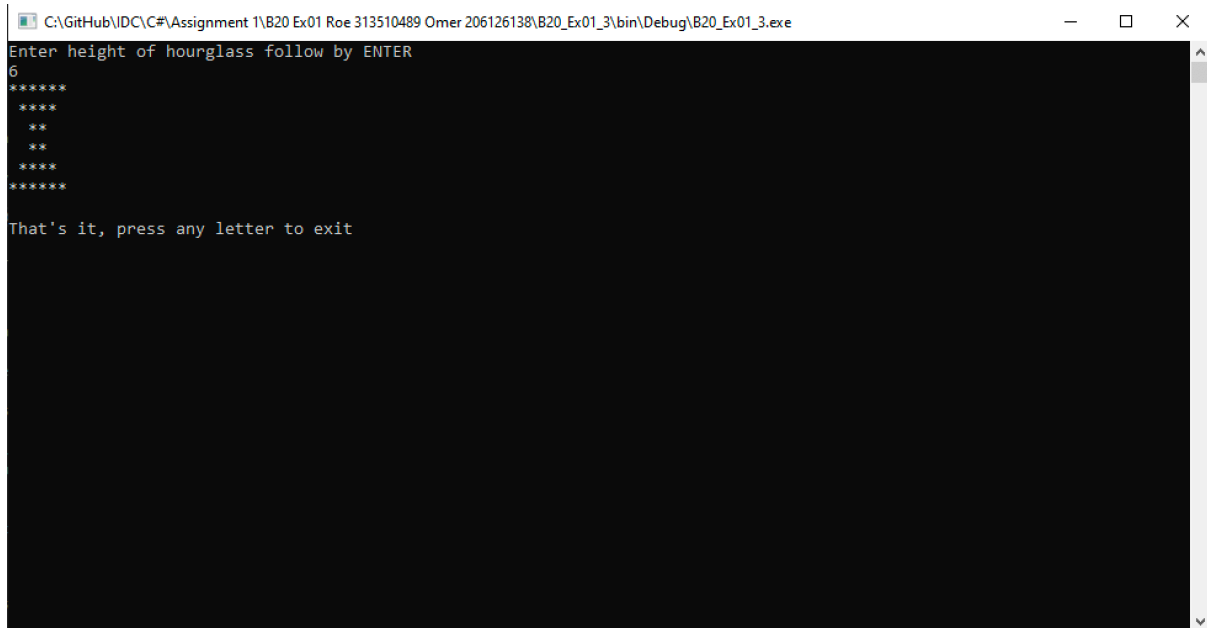
That's it, press any letter to exit
```

### 3. שעון חול למתקדמים



```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_3\bin\Debug\B20_Ex01_3.exe
Enter height of hourglass follow by ENTER
4
****
**
**
****

That's it, press any letter to exit
```



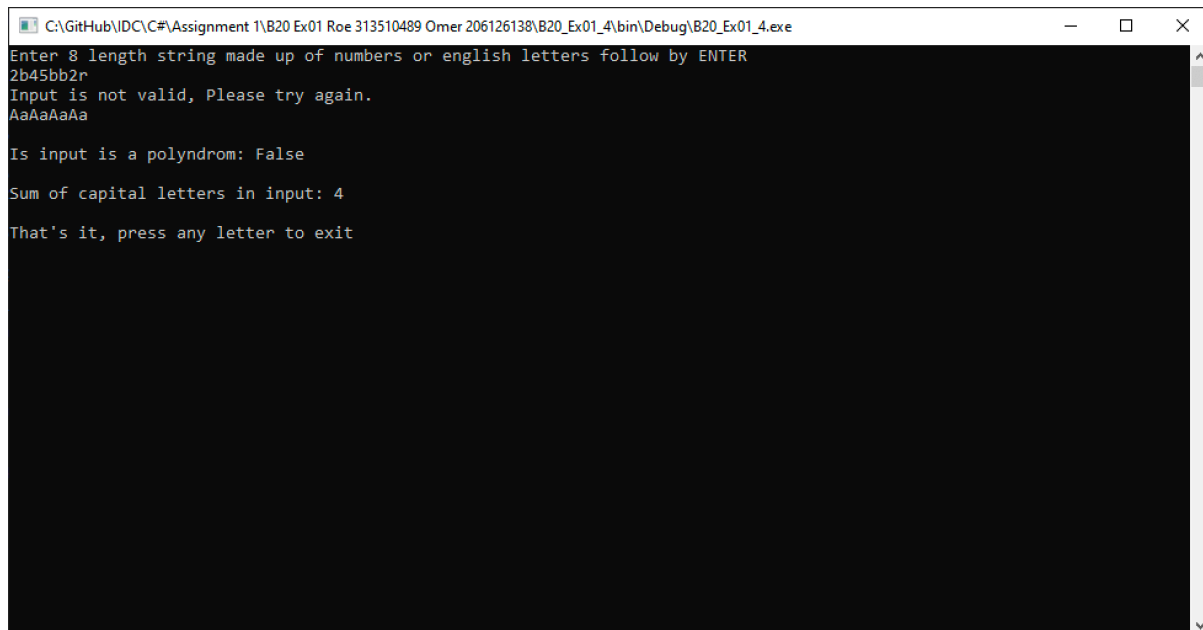
```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_3\bin\Debug\B20_Ex01_3.exe
Enter height of hourglass follow by ENTER
6
*****
****
**
**
****
*****

That's it, press any letter to exit
```

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_3\bin\Debug\B20_Ex01_3.exe
Enter height of hourglass follow by ENTER
7
*****
****
***
**
*
***
****
*****
That's it, press any letter to exit
```

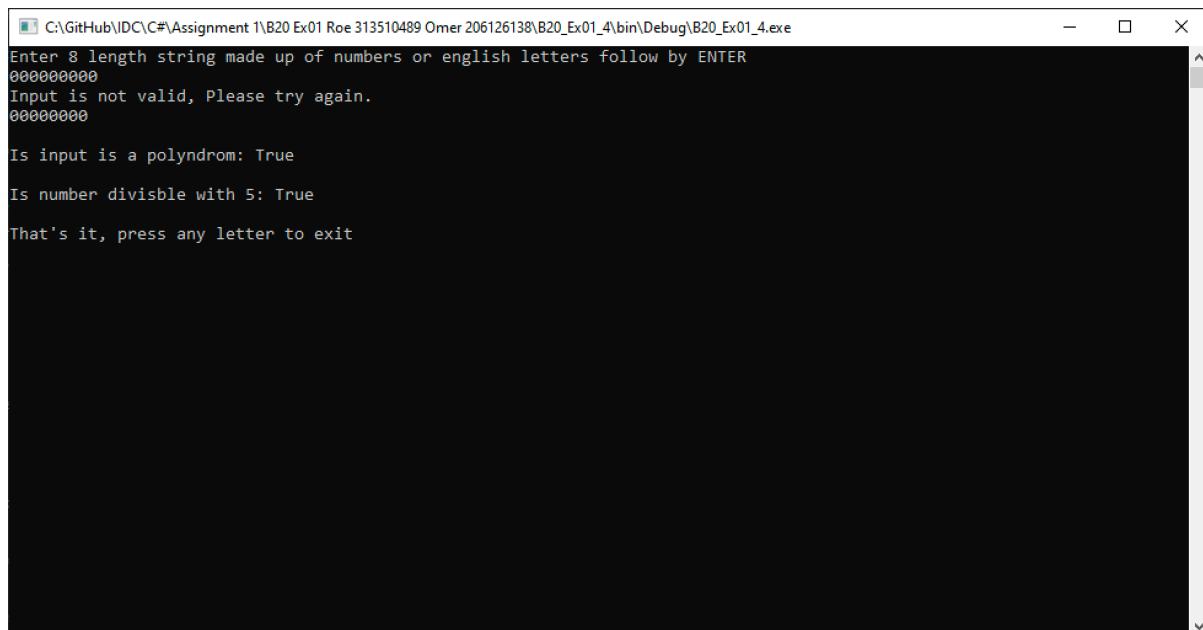
```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_3\bin\Debug\B20_Ex01_3.exe
Enter height of hourglass follow by ENTER
8
*****
****
***
**
*
***
****
*****
That's it, press any letter to exit
```

#### 4. ניתוח מחרוזת



```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_4\bin\Debug\B20_Ex01_4.exe
Enter 8 length string made up of numbers or english letters follow by ENTER
2b45bb2r
Input is not valid, Please try again.
AaAaAaAa

Is input is a polyndrom: False
Sum of capital letters in input: 4
That's it, press any letter to exit
```



```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_4\bin\Debug\B20_Ex01_4.exe
Enter 8 length string made up of numbers or english letters follow by ENTER
00000000
Input is not valid, Please try again.
00000000

Is input is a polyndrom: True
Is number divisble with 5: True
That's it, press any letter to exit
```

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_4\bin\Debug\B20_Ex01_4.exe
Enter 8 length string made up of numbers or english letters follow by ENTER
aRtootRa

Is input is a polyndrom: True

Sum of capital letters in input: 2

That's it, press any letter to exit
```

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_4\bin\Debug\B20_Ex01_4.exe
Enter 8 length string made up of numbers or english letters follow by ENTER
84844848

Is input is a polyndrom: True

Is number divisble with 5: False

That's it, press any letter to exit
```

## 5. סטטיסטיקות מספרים

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_5\bin\Debug\B20_Ex01_5.exe
Enter a 9 digit positive number follow by ENTER
444444444
*****
Statics:
*****

The biggest digit in the number is: 4
The smallest digit in the number is: 4
The number of digits that divisible by 3 is: 0
The number of digits which grater then last digit is: 0
That's it, press any letter to exit
```

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_5\bin\Debug\B20_Ex01_5.exe
Enter a 9 digit positive number follow by ENTER
999990412
*****
Statics:
*****

The biggest digit in the number is: 9
The smallest digit in the number is: 0
The number of digits that divisible by 3 is: 6
The number of digits which grater then last digit is: 6
That's it, press any letter to exit
```



```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_5\bin\Debug\B20_Ex01_5.exe
Enter a 9 digit positive number follow by ENTER
000000123

*****
Statics:
*****

The biggest digit in the number is: 3
The smallest digit in the number is: 0
The number of digits that divisible by 3 is: 7
The number of digits which grater then last digit is: 0
That's it, press any letter to exit
```

```
C:\GitHub\IDC\C#\Assignment 1\B20 Ex01 Roe 313510489 Omer 206126138\B20_Ex01_5\bin\Debug\B20_Ex01_5.exe
Enter a 9 digit positive number follow by ENTER
asdasddd
Number is not valid, Please try again.
1233333
Number is not valid, Please try again.
978572083

*****
Statics:
*****

The biggest digit in the number is: 9
The smallest digit in the number is: 0
The number of digits that divisible by 3 is: 3
The number of digits which grater then last digit is: 6
That's it, press any letter to exit
```