

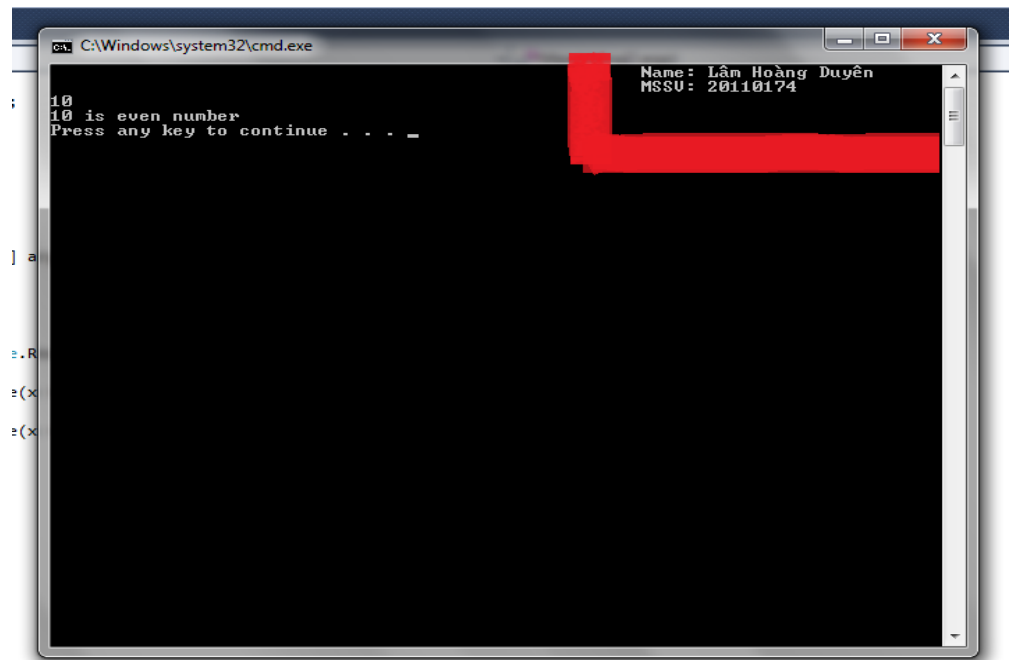
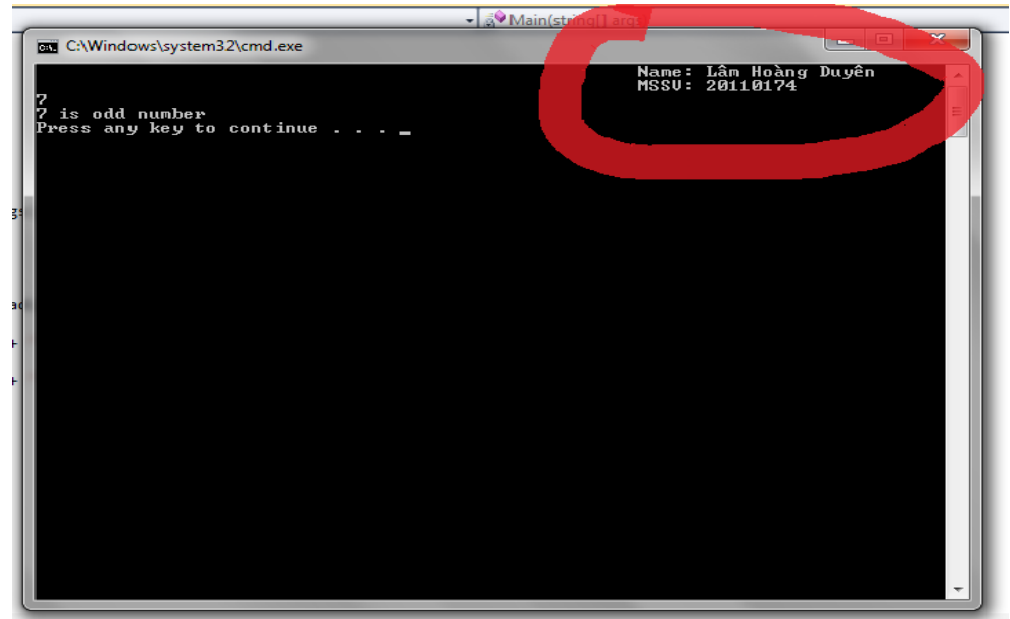
Report

Course Name: 20110174

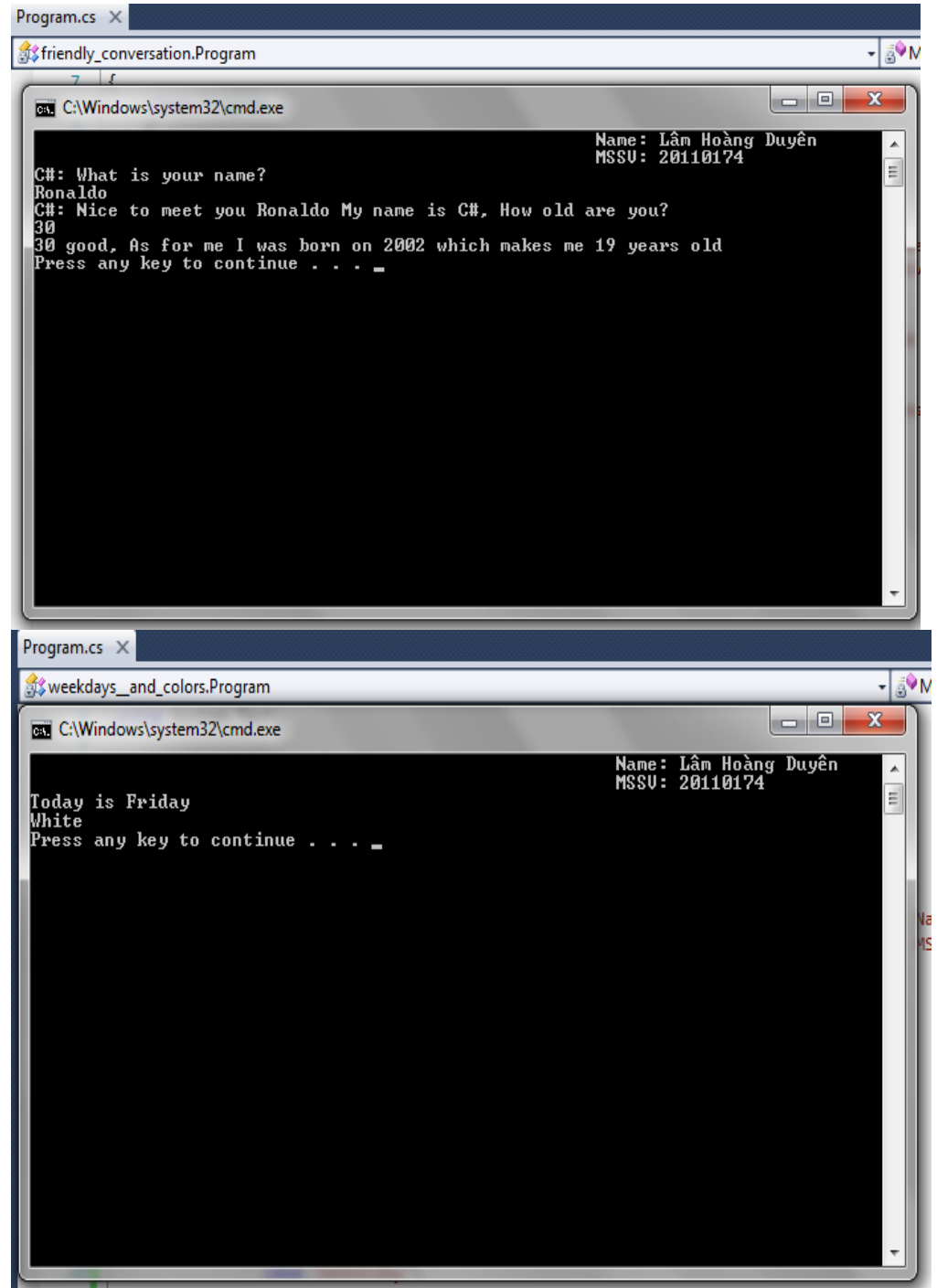
Student Name: Lâm Hoàng Duyên

Day 01: Week: 1	Title:
Problem 01:	Solution: (Sinhviênchụpkếtquảvà paste vàođây)
Clip 015: Introduction to the Chapter	Dive deeper into C# data types Different errors types Take input from user Arithmetic operators Logical operators Comparison operators Conditional statements (if and switch)
Clip 021: Naming Conventions	Học 1 số phương pháp đặt tên phổ biến: <ul style="list-style-type: none">- Camel case- Upper camel case (Pascal)- Snake case (Underscore)- Kebab case Quy tắc chung khi đặt tên biến: <ul style="list-style-type: none">- Chọn tên dễ đọc- Làm cho tên dễ đọc (ví dụ: không viết tắt)- Tránh đặt tên trùng với các từ khóa có trong C#- Không sử dụng số và kí tự đặt biệt.

Clip 031: Even or Odd Exercise



Clip 032: Assignments 123



Program.cs X

friendly_conversation.Program

C:\Windows\system32\cmd.exe

Name: Lâm Hoàng Duyên
MSSV: 20110174

C#: What is your name?
Ronaldo
C#: Nice to meet you Ronaldo My name is C#, How old are you?
30
30 good, As for me I was born on 2002 which makes me 19 years old
Press any key to continue . . . _

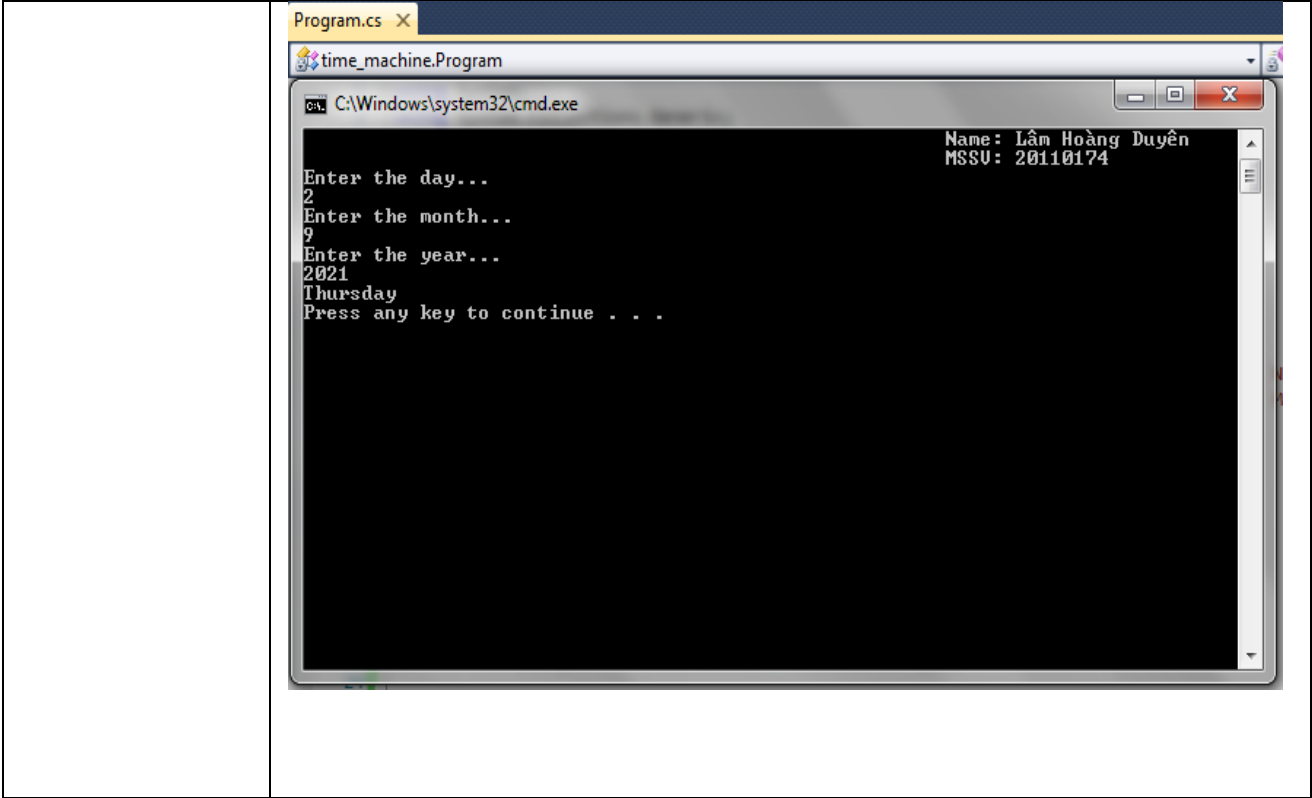
Program.cs X

weekdays_and_colors.Program

C:\Windows\system32\cmd.exe

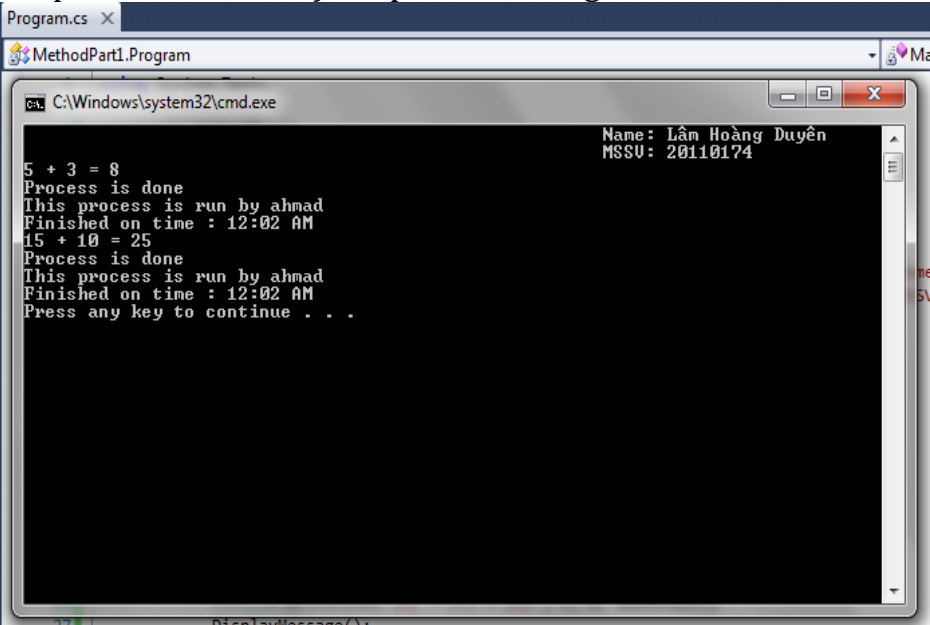
Name: Lâm Hoàng Duyên
MSSV: 20110174

Today is Friday
White
Press any key to continue . . . _

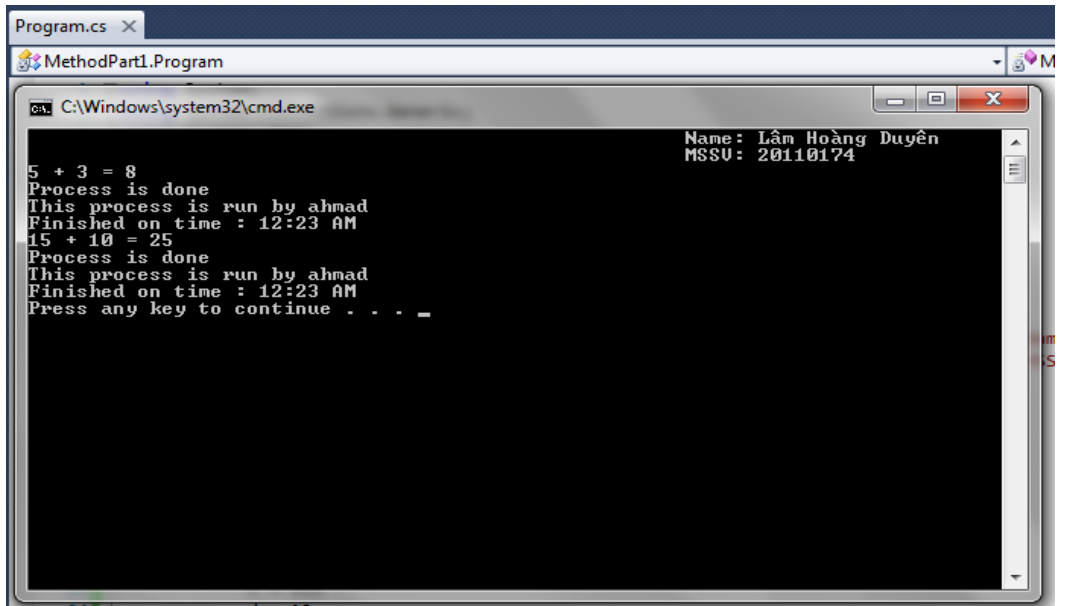


Clip 033: Summary	<p>Tổng kết lại những gì đã học:</p> <ul style="list-style-type: none"> - Interger data types - How to check is data type is primitive - DateTime data type - Syntax errors, runtime errors - Different naming conventions - Take input from user - Arithmetic operators - If statement - Switch statement - Comparison operators - Logical operators - Even or odd
Clip 003: Programming Languages	<p>Học về 2 loại ngôn ngữ: ngôn ngữ cấp thấp(Low Level) và ngôn ngữ cấp cao(High Level)</p> <p>Hiểu được rõ về 2 loại này:</p> <ul style="list-style-type: none"> - Ngôn ngữ cấp thấp được sử dụng trên phần cứng để máy tính có thể hiểu được, thời gian chạy rất nhanh, được viết dưới dạng nhị phân - Ngôn ngữ cấp cao được sử dụng trên phần mềm để con người có thể tương tác với máy thông qua trình biên dịch, dịch từ ngôn ngữ cấp cao sang cấp thấp và thường chậm hơn so với ngôn ngữ cấp thấp, được viết dưới dạng thập phân.
Clip 054: Object oriented Programming	<p>Hiểu được lập trình hướng đối tượng là gì. Biết class, object, method, property là gì và 4 phương pháp của C#: Inheritance, Encapsulation, Polymorphism, Abstraction.</p> <ul style="list-style-type: none"> - Object – Oriented – Programming (OOP) refers to a type software design programmers define data type of a data structure, but also the types of operations (function) that can be applied to the data structure. In this way the data structure becomes an object that includes both data and functions. - Class: a category of objects. The class defines all the common properties of the different objects that belong to it. - Object: Refers to a particular instance of a class where the object can be a combination of variables, functions and data structures. - Method: A combination of instructions grouped together to achieve some result. It may take arguments and return result. - Property: A member that provides a flexible mechanism to read, write, or compute the value of a private field. <p>The four pillars of OOP:</p> <ul style="list-style-type: none"> - Inheritance: The process of creating the new class by extending the existing class or the process of inheriting the features of base class is call as inheritance. - Encapsulation: Encapsulation is a process of binding data members (variables, properties) and methods together. - Polymorphism: Poly means many and Morph means forms. Polymorphism is the process in which an object or function take different forms.

	- Abstraction: Abstraction is the process of showing only essential features of an object to the outside world and hide the other irrelevant information.
Clip 097: NET Framework	Biết được NET Framework là gì. Đây là một thành phần của Windows bao gồm hệ thống thực thi ảo cung cấp một môi trường để chạy các ứng dụng và là một tập hợp các thư viện chứa các đoạn code được chia sẻ giúp nhà phát triển có thể sử dụng các đoạn code có sẵn để hỗ trợ rút ngắn thời gian, tập trung viết những đoạn code khác của ứng dụng.

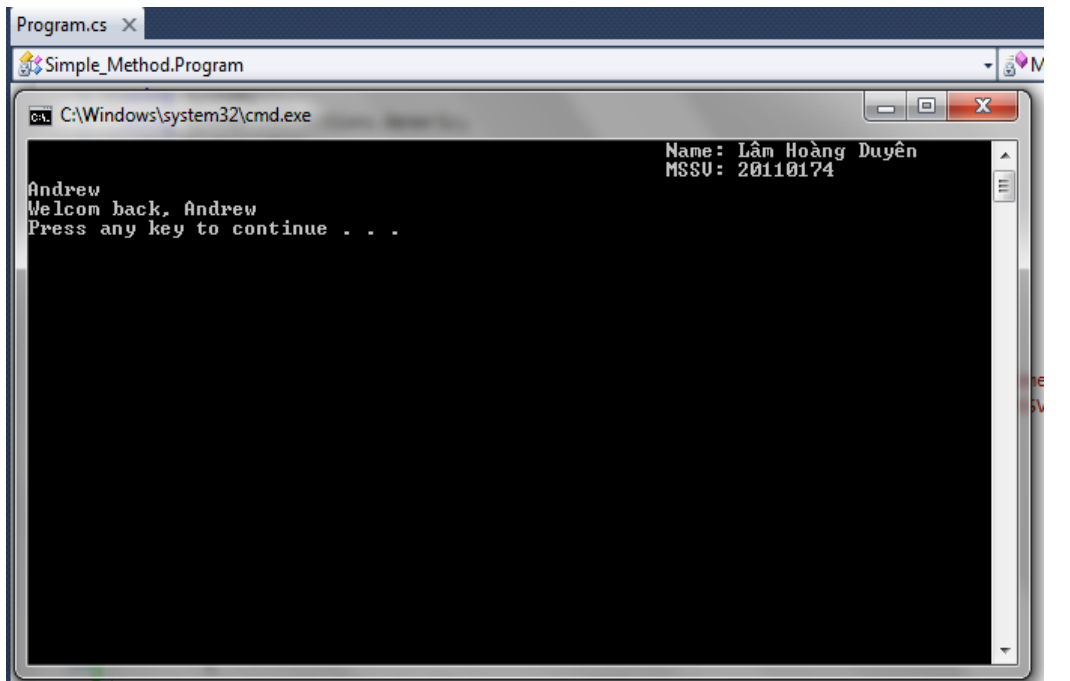
Day 02: Week:	Title:
Problem 01:	Solution: <i>(Sinhviênchụpkếtquảvà paste vàođây)</i>
Clip 055: Methods Part 1 The Basics	<ul style="list-style-type: none"> - A method: is a code block that contains a series of statements. A program causes the statements to be executed by calling the method and specifying and require method arguments. - Method Signature: Method name and its parameters types (but not the parameter names) are part of the signature.  <p>The screenshot shows a Windows command prompt window titled 'C:\Windows\system32\cmd.exe'. It displays the output of a C# program. The program has two methods, each performing a calculation and printing the result, followed by a message 'Process is done', 'This process is run by ahmad', and 'Finished on time : 12:02 AM'. The first method calculates 5 + 3 = 8, and the second calculates 15 + 10 = 25. The program ends with 'Press any key to continue . . .'. The window also shows the file explorer path 'C:\Windows\system32\cmd.exe' and the file name 'Program.cs'.</p>

Clip
056: Methods
Part 2
Parameters and
Return Type



```
Program.cs X
MethodPart1.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
5 + 3 = 8
Process is done
This process is run by ahmad
Finished on time : 12:23 AM
15 + 10 = 25
Process is done
This process is run by ahmad
Finished on time : 12:23 AM
Press any key to continue . . .
```

Clip 057: Simple
Method Exercise



```
Program.cs X
Simple_Method.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
Andrew
Welcom back, Andrew
Press any key to continue . . .
```


Clip
058: Methods
Part 3 Value vs
Reference

The image displays two sequential screenshots of a C# program running in a Windows command prompt. The program is titled 'Method_Part3.Program' and is executed from 'C:\Windows\system32\cmd.exe'. The user's name is 'Lâm Hoàng Duyên' and the MSSU is '20110174'.

Top Screenshot:

```
Program.cs X
Method_Part3.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174

Outside Main Method
-----
Olivia Aaron
Alvaro Salazar

Inside Main Method
-----
Olivia Aaron
Alvaro Salazar

Press any key to continue . . . _
```

Bottom Screenshot:

```
Program.cs X
Method_Part3.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174

Inside Main Method
-----
David Smith
Sophia Watson

Outside Main Method
-----
Olivia Aaron
Alvaro Salazar

Inside Main Method
-----
David Smith
Sophia Watson

Press any key to continue . . . _
```

The screenshot shows a Windows command prompt window titled "C:\Windows\system32\cmd.exe" running a program named "Method_Part3.Program". The program's output is as follows:

```
Program.cs X
Method_Part3.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSV: 20110174

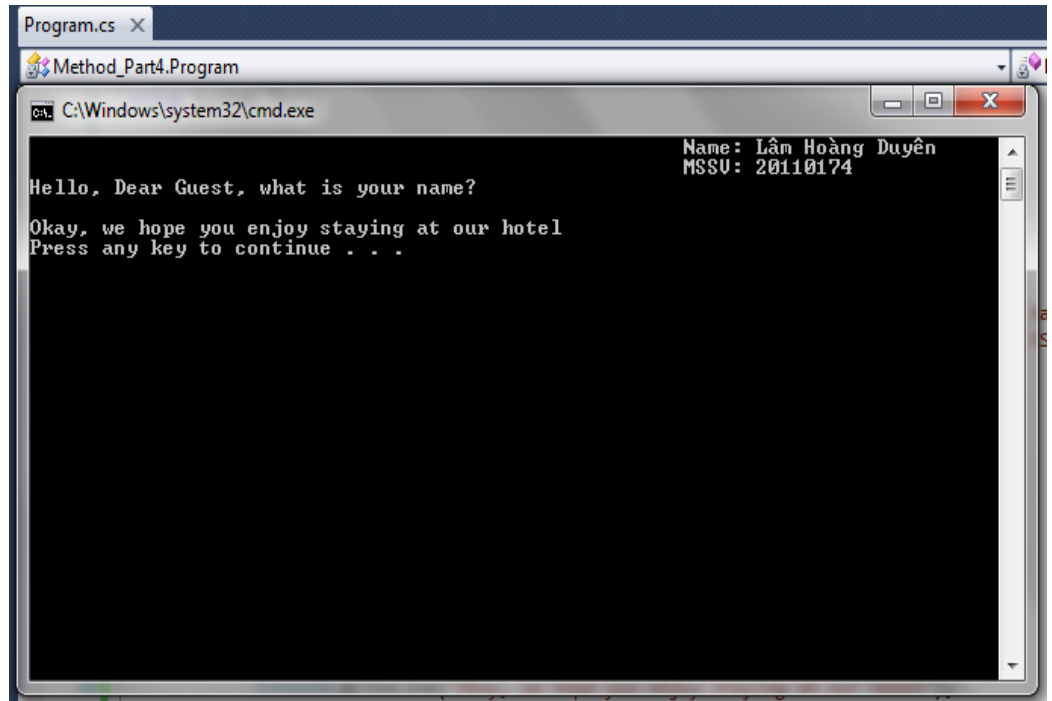
Inside Main Method
-----
David Smith
Sophia Watson

Outside Main Method
-----
Olivia Aaron
Alvaro Salazar

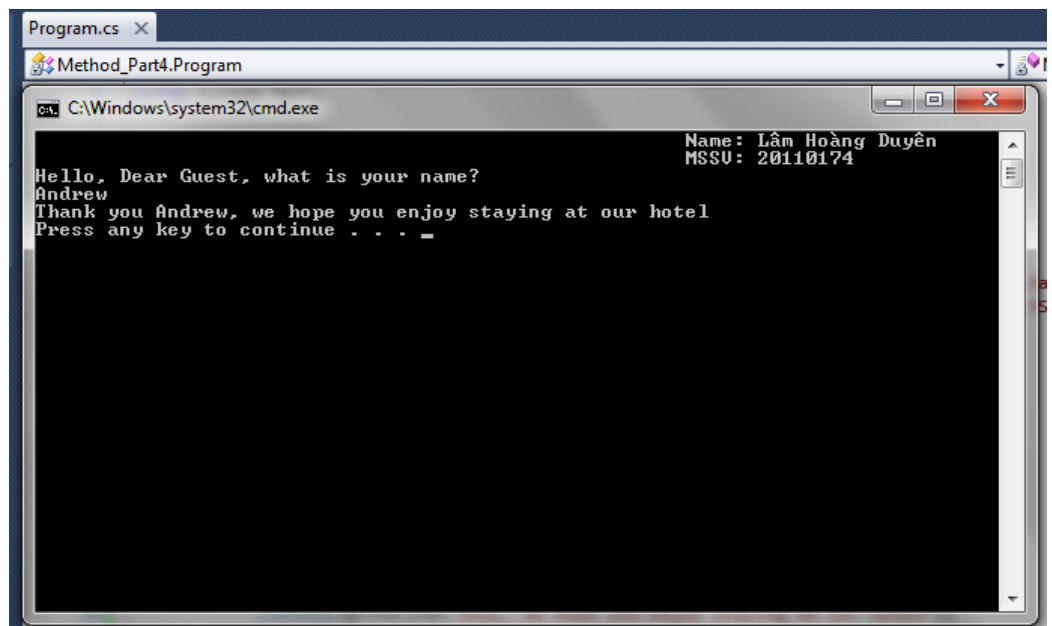
Inside Main Method
-----
Olivia Aaron
Alvaro Salazar

Press any key to continue . . . _
```

Clip
059: Methods
Part 4
Overloaded
Methods

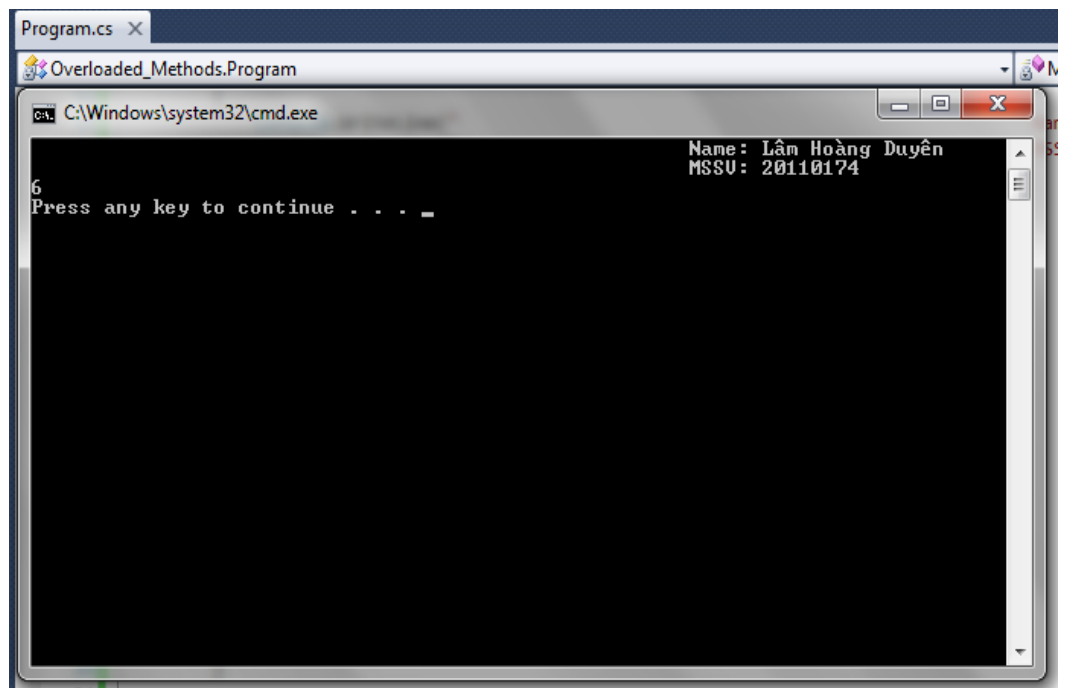
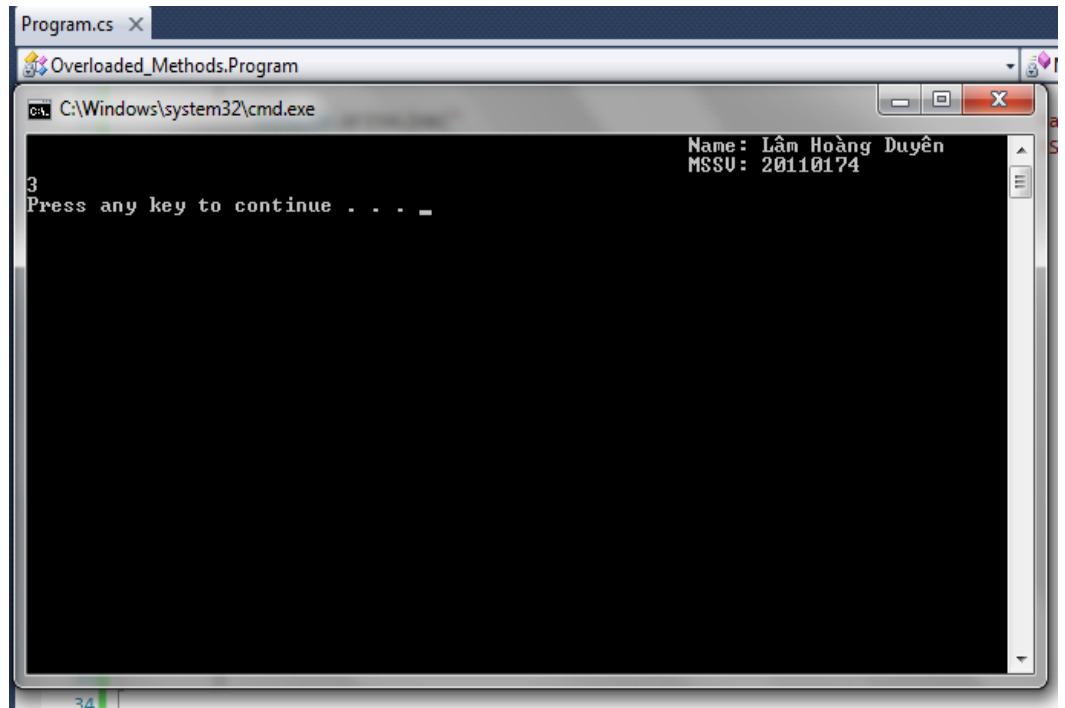


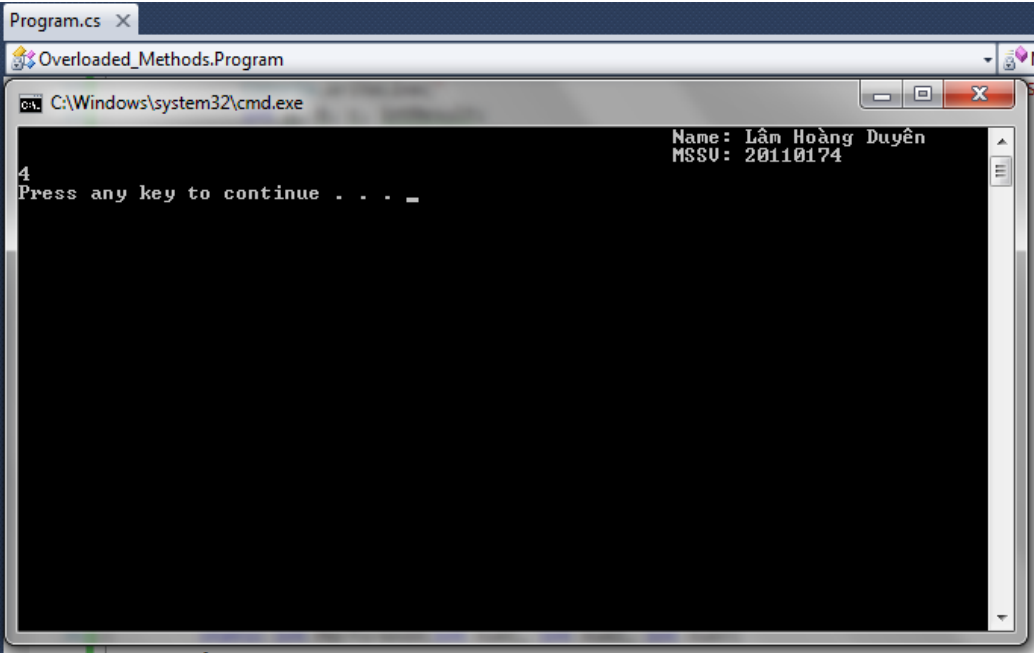
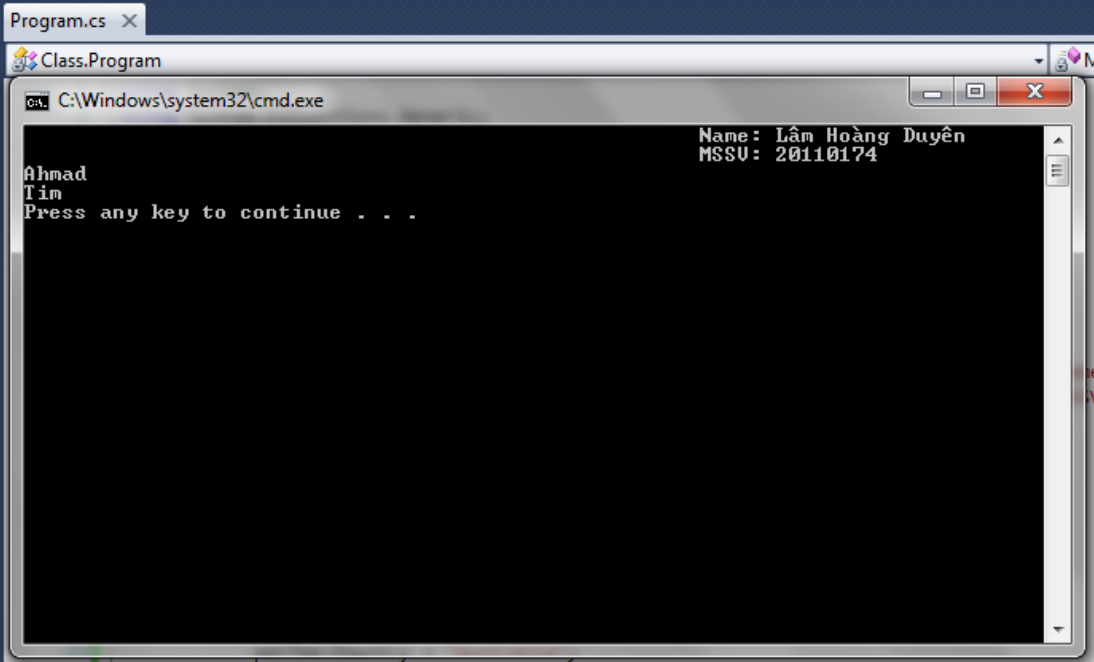
```
Program.cs X
Method_Part4.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
Hello, Dear Guest, what is your name?
Okay, we hope you enjoy staying at our hotel
Press any key to continue . . .
```



```
Program.cs X
Method_Part4.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
Hello, Dear Guest, what is your name?
Andrew
Thank you Andrew, we hope you enjoy staying at our hotel
Press any key to continue . . . _
```

Clip
060: Overloaded
Methods
Exercise



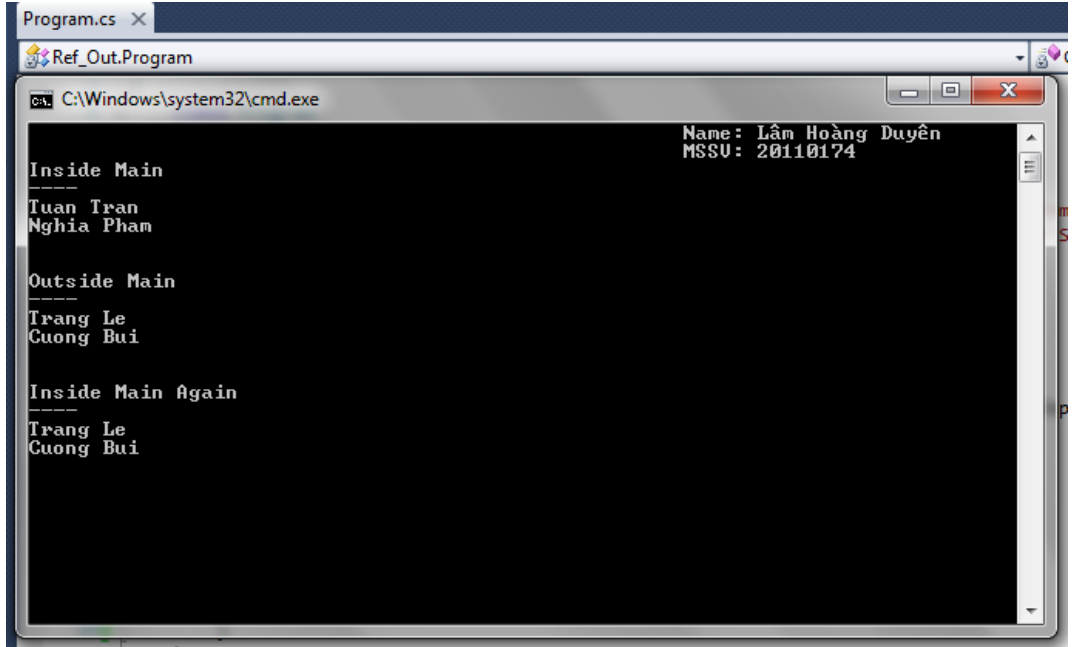
	
Clip 061: Classes	

Phân biệt ref và out

Điểm khác biệt duy nhất là một biến bạn truyền dưới dạng tham số out không cần phải được khởi tạo mà chuyển nó thành tham số ref thì nó phải được đặt thành một tham số.

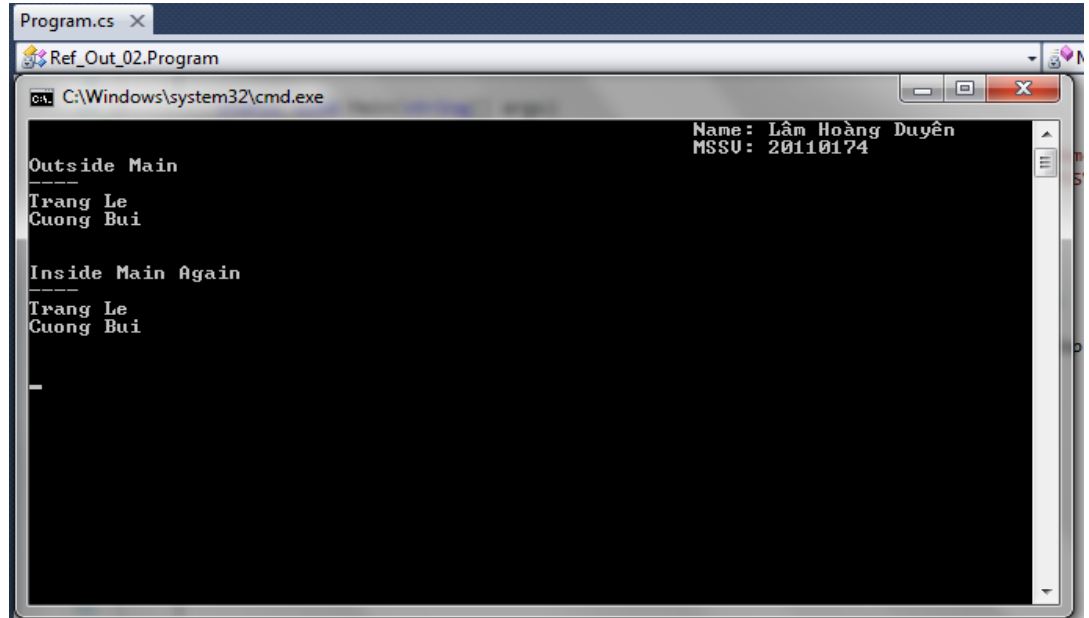
Ví dụ:

- Ref:

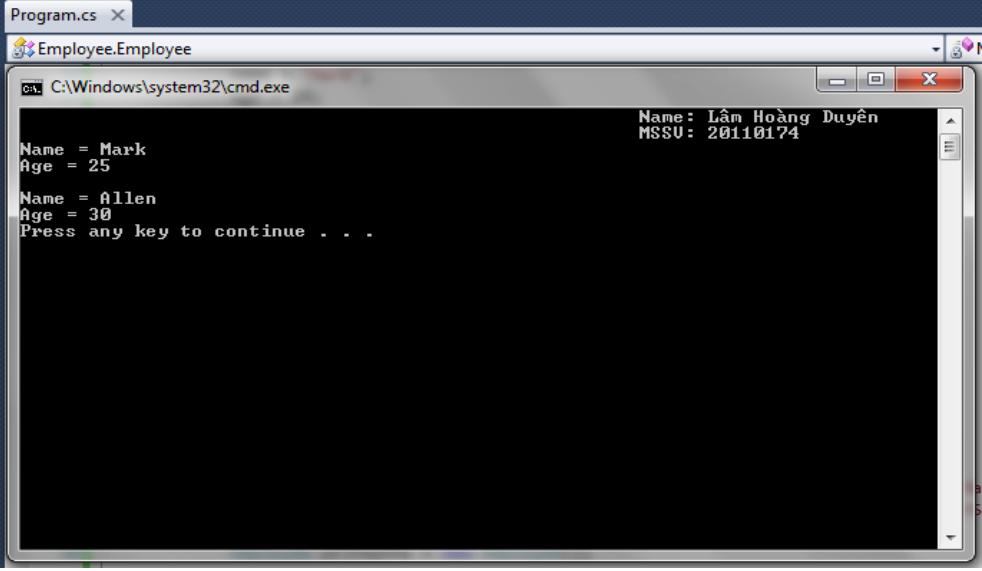
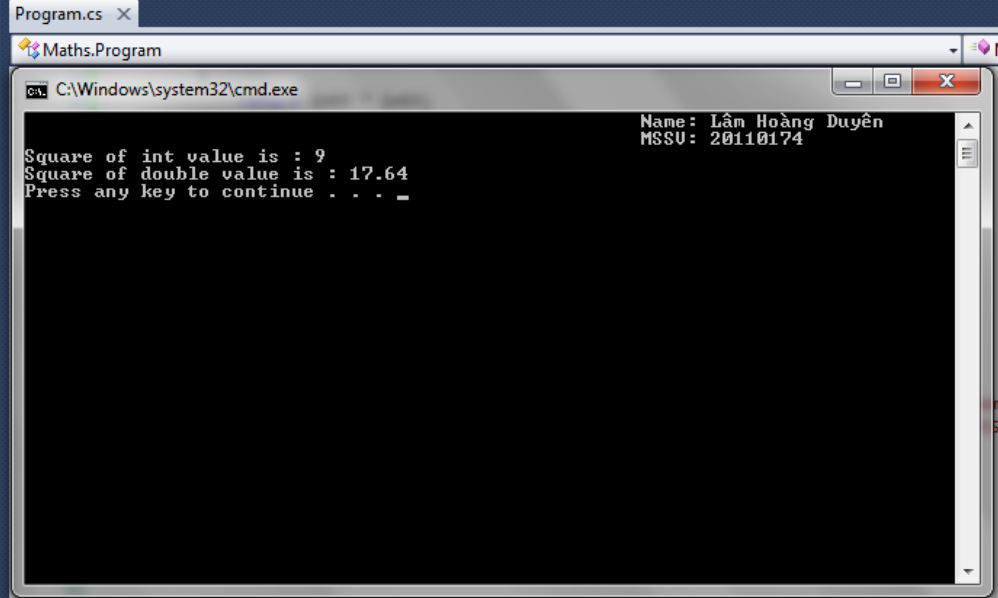


```
Program.cs x
Ref_Out.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSV: 20110174
Inside Main
-----
Tuan Tran
Nghia Phan
Outside Main
-----
Trang Le
Cuong Bui
Inside Main Again
-----
Trang Le
Cuong Bui
```

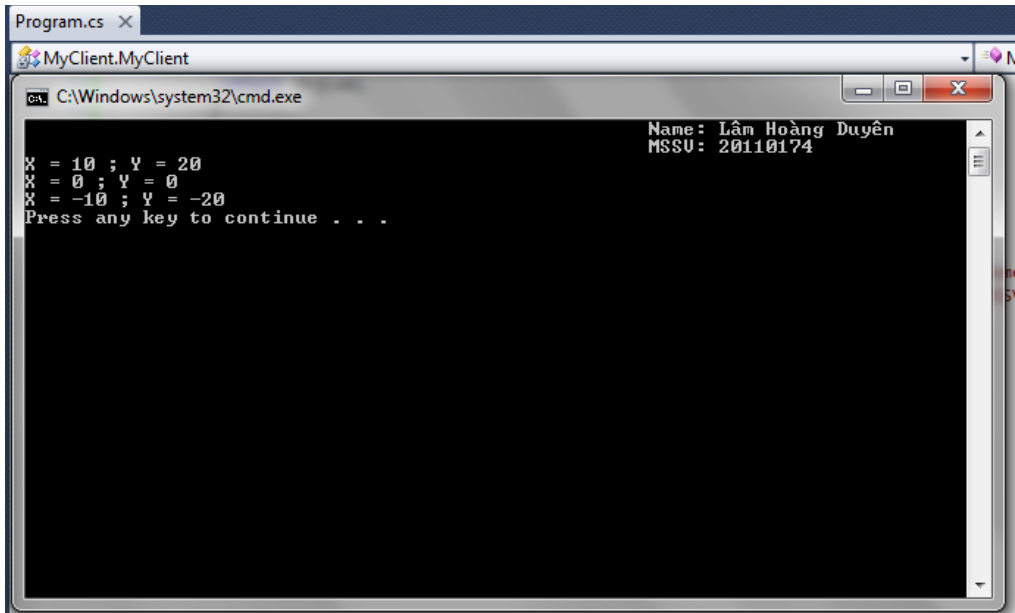
- Out:



```
Program.cs x
Ref_Out_02.Program
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSV: 20110174
Outside Main
-----
Trang Le
Cuong Bui
Inside Main Again
-----
Trang Le
Cuong Bui
-
```

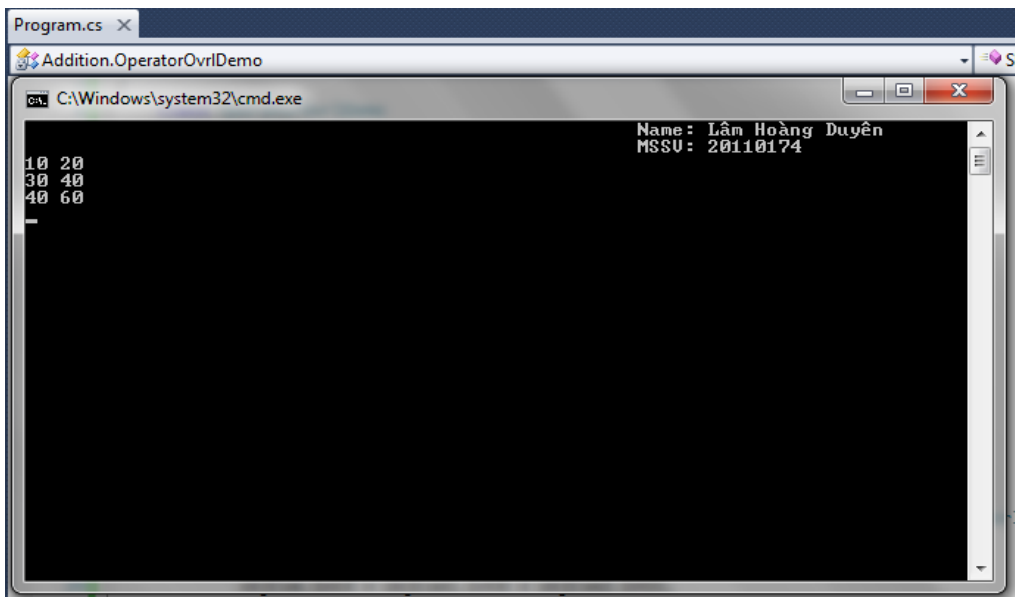
Day 01: Week: 3	Title:
Problem 01: Employee	Solution:  <p>The screenshot shows a C# program window titled "Employee.Employee" running in a command prompt. The program displays the following output:</p> <pre>Name = Mark Age = 25 Name = Allen Age = 30 Press any key to continue . . .</pre> <p>In the top right corner of the command prompt window, the user's name and ID are displayed:</p> <pre>Name : Lâm Hoàng Duyên MSSV : 20110174</pre>
Problem 02: Maths	 <p>The screenshot shows a C# program window titled "Maths.Program" running in a command prompt. The program displays the following output:</p> <pre>Square of int value is : 9 Square of double value is : 17.64 Press any key to continue . . .</pre> <p>In the top right corner of the command prompt window, the user's name and ID are displayed:</p> <pre>Name : Lâm Hoàng Duyên MSSV : 20110174</pre>

**Problem
03:
MyClient**



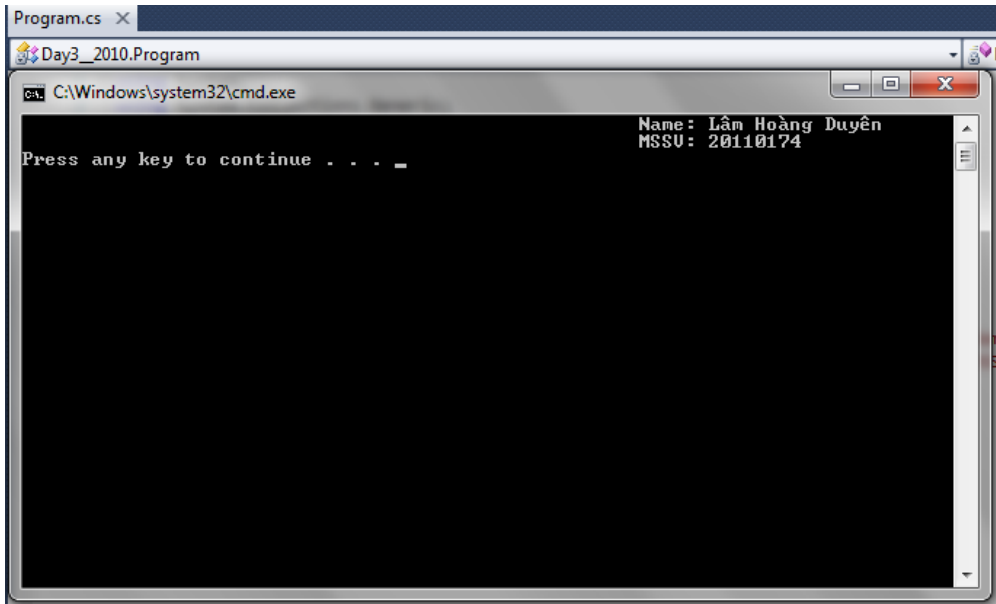
```
Program.cs x
MyClient.MyClient
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSV: 20110174
X = 10 ; Y = 20
X = 0 ; Y = 0
X = -10 ; Y = -20
Press any key to continue . . .
```

**Problem
04:
Addition**

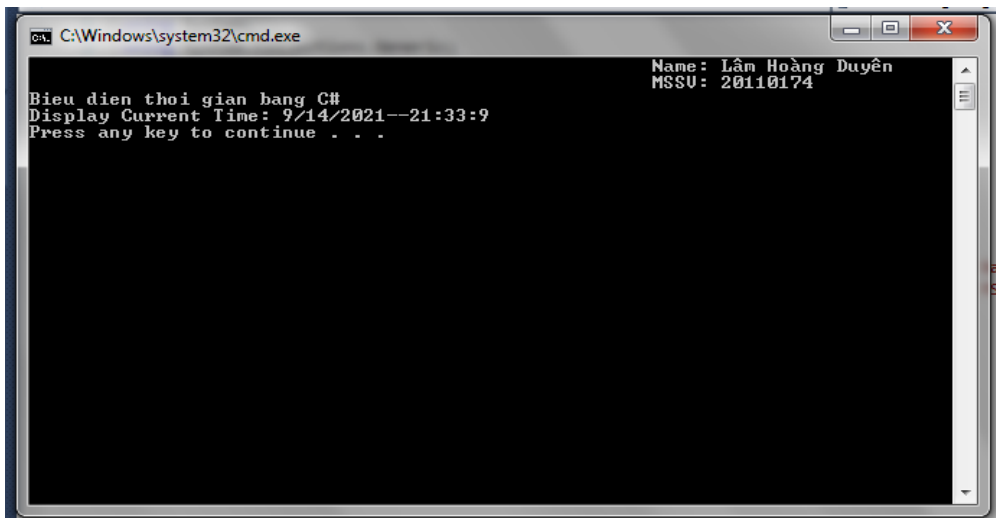


```
Program.cs x
Addition.OperatorOvrlDemo
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSV: 20110174
10 20
30 40
40 60
-
```

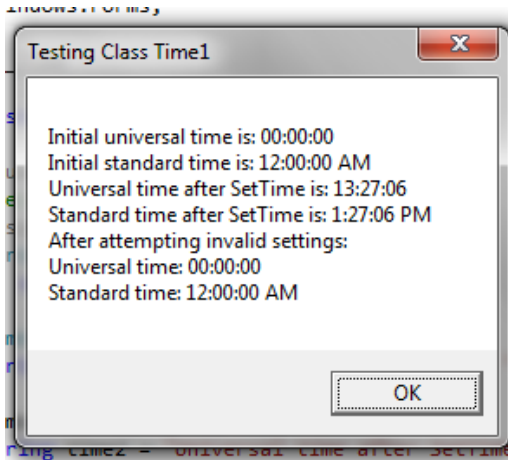

**Problem
05:**



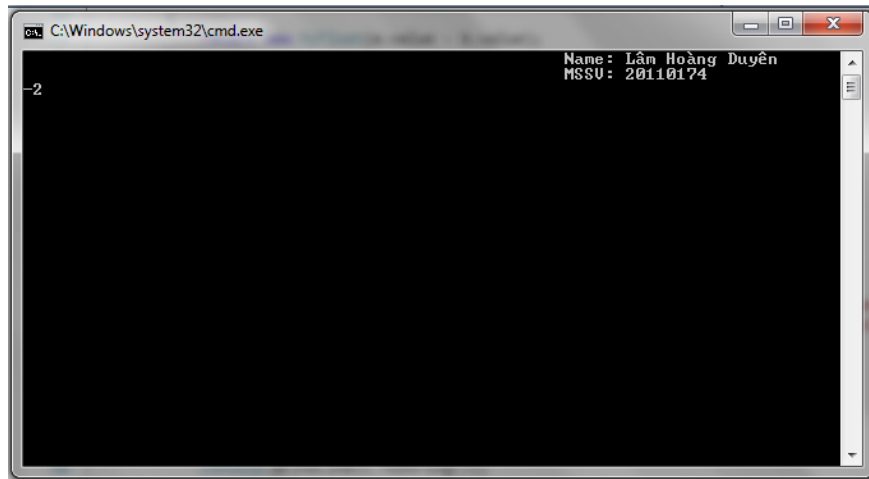
**Problem
05: Current
Time**



**Problem
06: Test
Time**

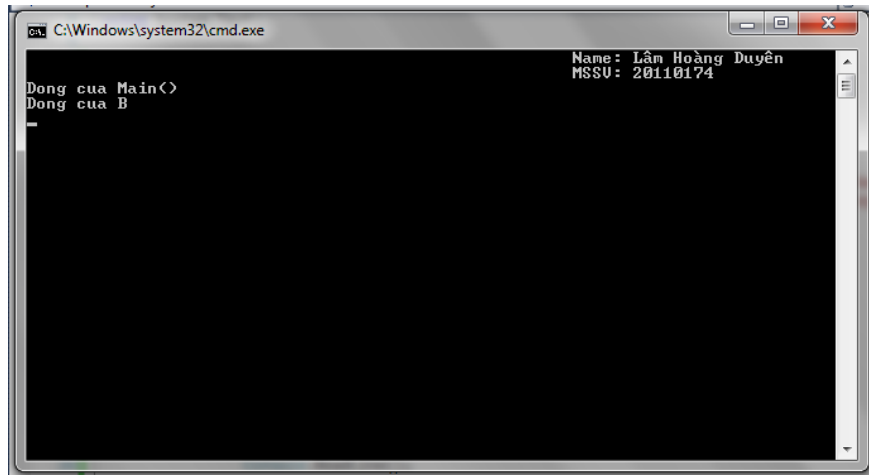


**Problem
07: Nạp
chồng toán
hạng đơn
giản**

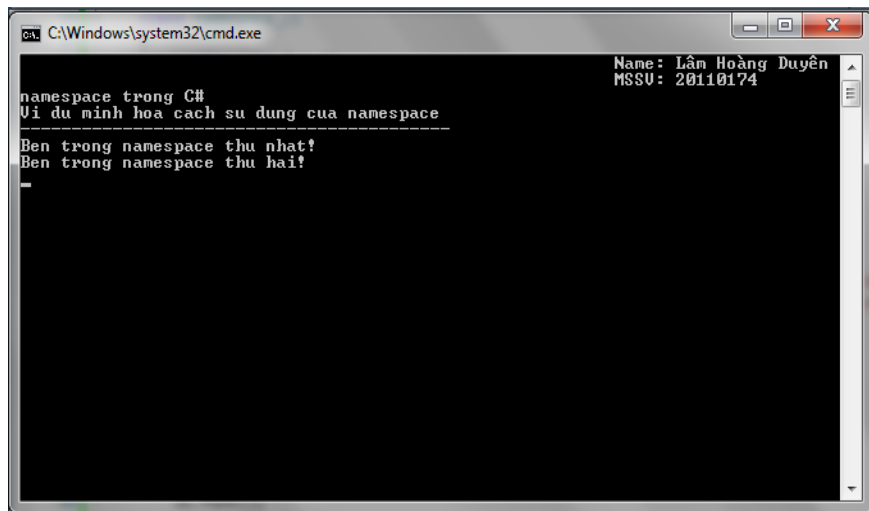


```
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
-2
```

**Problem
08:
Namespace**

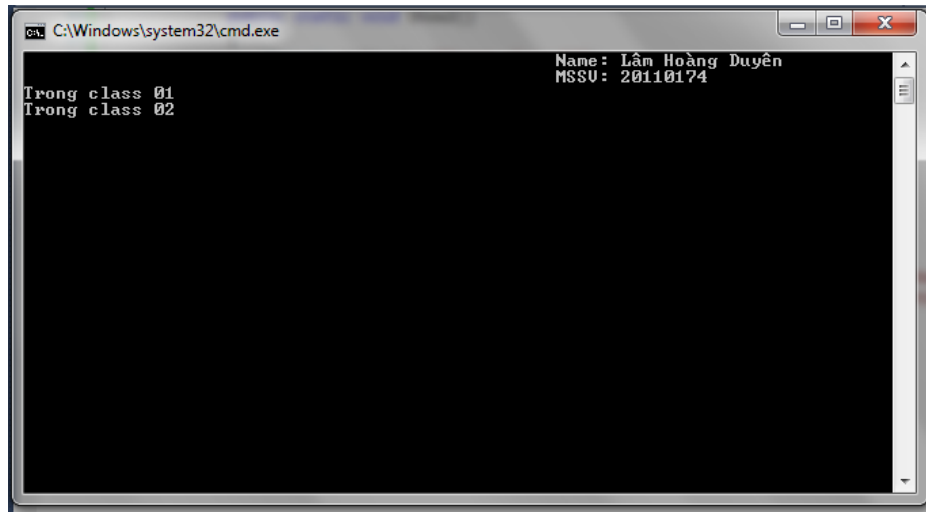


```
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
Dong cua Main<>
Dong cua B
```



```
C:\Windows\system32\cmd.exe
Name: Lâm Hoàng Duyên
MSSU: 20110174
namespace trong C#
Vi du minh hoa cach su dung cua namespace
-----
Ben trong namespace thu nhat!
Ben trong namespace thu hai!
```

**Problem
09:
Namespace
trên 2 lớp**



```
C:\Windows\system32\cmd.exe
Trong class 01
Trong class 02
Name: Lâm Hoàng Duyên
MSSV: 20110174
```

**Clip 008:
Data Types
and
Variables
Part 1**

Variables: Name given to a storage area that our programs can manipulate

Một số kiểu dữ liệu:

int : used to store integer numbers (3 or 2000)

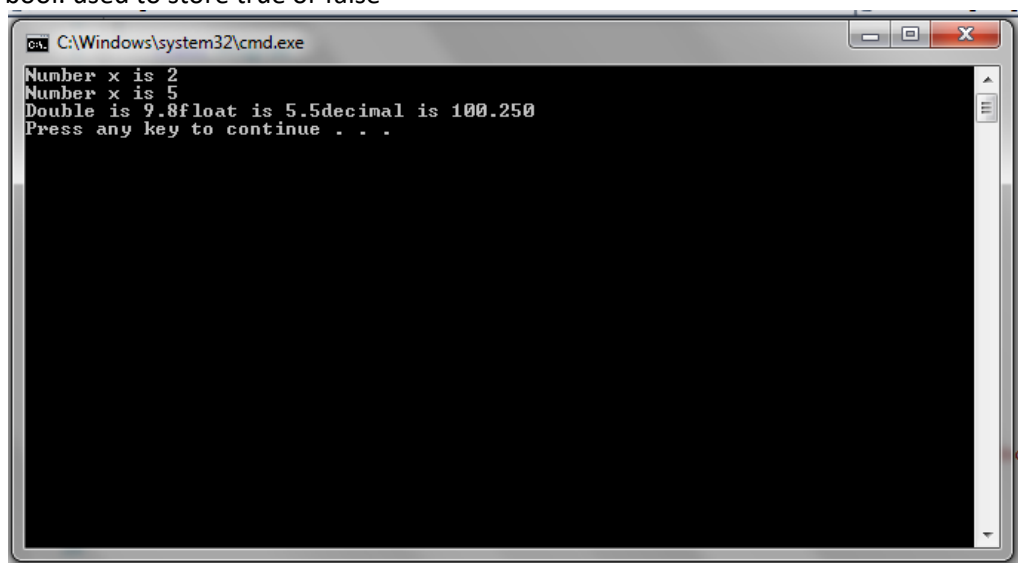
float : used to store floating point numbers (3.5 or 9.8)

double: used to store floating point numbers

decimal: used to store money values (2000\$)

string: used to store text ("Ned" or "Vienna")

bool: used to store true or false



```
C:\Windows\system32\cmd.exe
Number x is 2
Number x is 5
Double is 9.8float is 5.5decimal is 100.250
Press any key to continue . . .
```

**Clip 009:
Data Types
and
Variables
Part 2**

```
C:\Windows\system32\cmd.exe

Number x is 2
Number x is 5
Double is 9.8float is 5.5decimal is 100.250
Hello, Jon Snow of House Stark
Press any key to continue . . .
```

**Clip 010:
Data Types
and
Variables
Part 3**

```
C:\Windows\system32\cmd.exe

Name: Lâm Hoàng Duyên
MSSU: 20110174

Number x is 2
Number x is 5
Double is 9.8float is 5.5decimal is 100.250
Hello, Jon Snow of House Stark
True
100
Press any key to continue . . .
```

**Clip 011:
Casting
and Type
Conversion**

```
C:\Windows\system32\cmd.exe

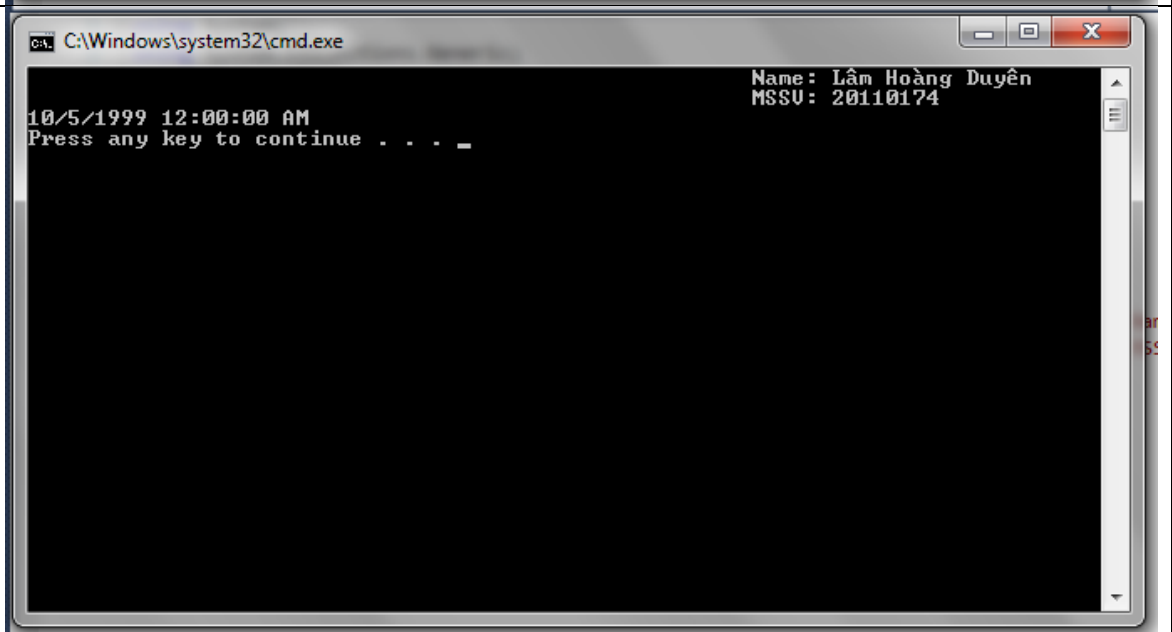
Name: Lâm Hoàng Duyên
MSSU: 20110174

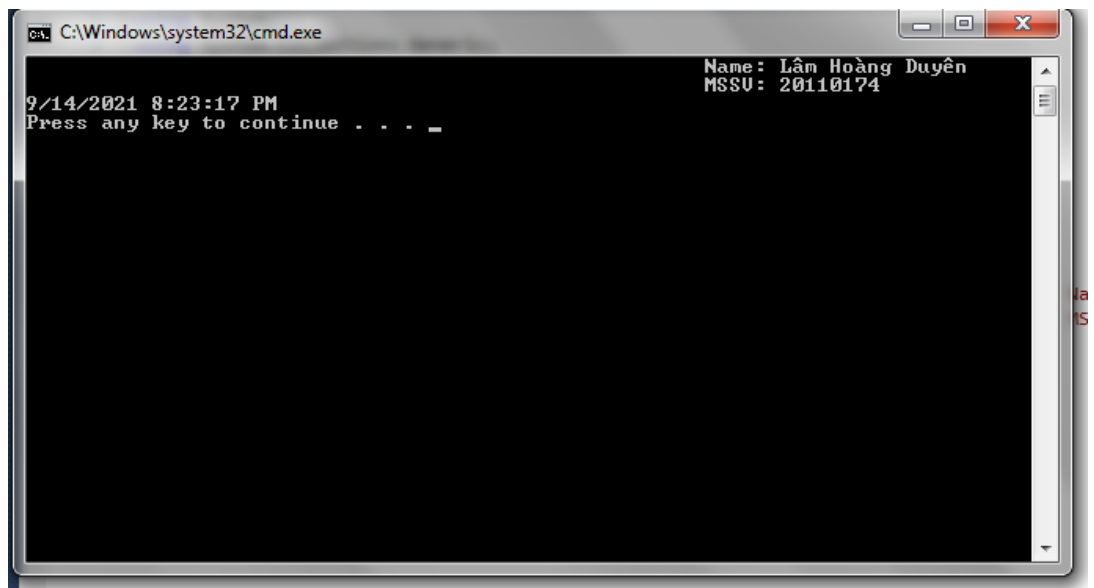
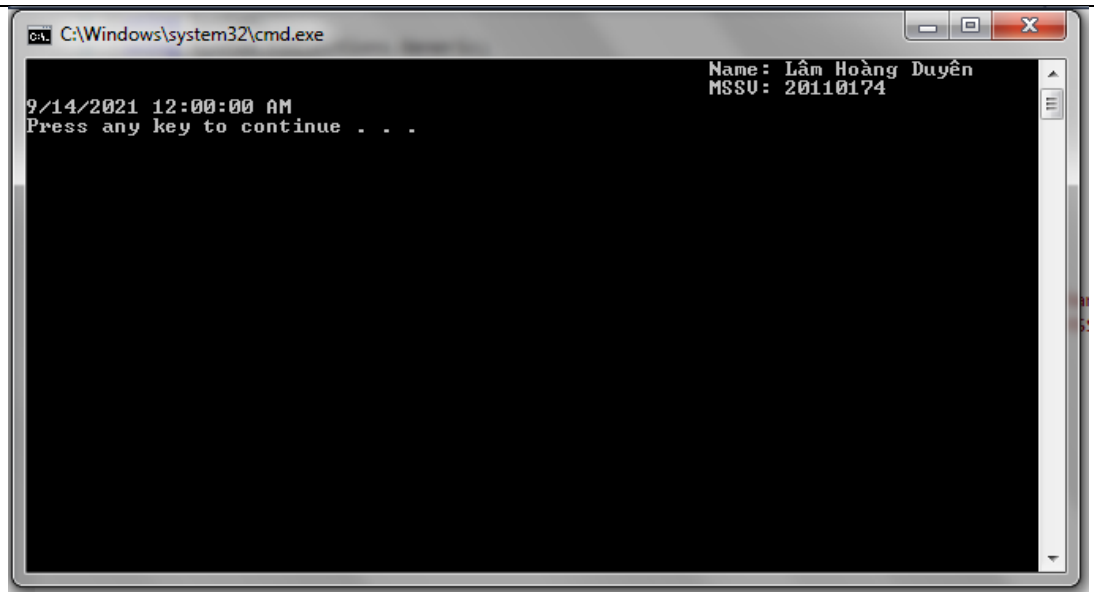
150
3
Press any key to continue . . .
```

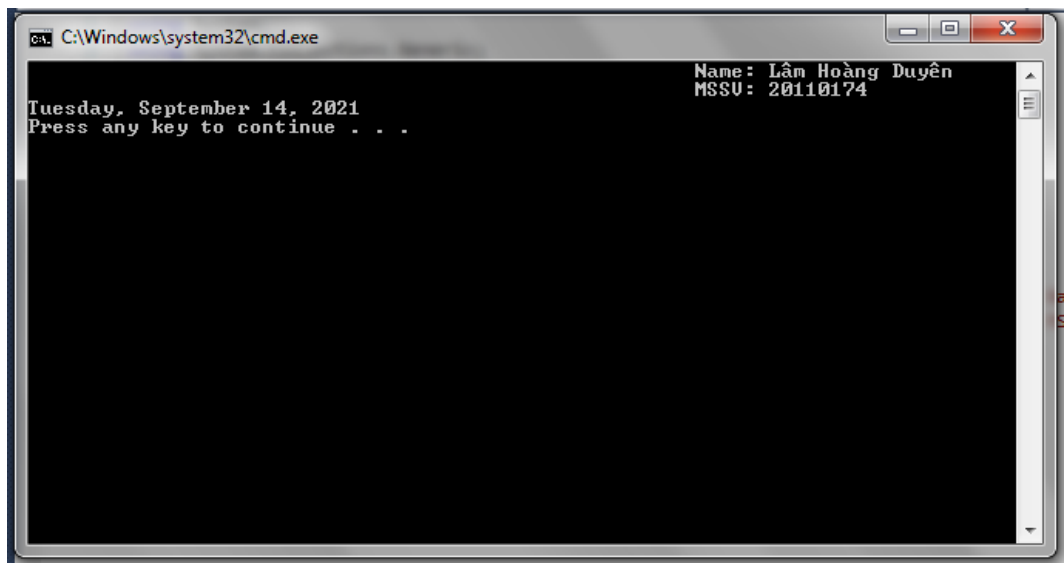
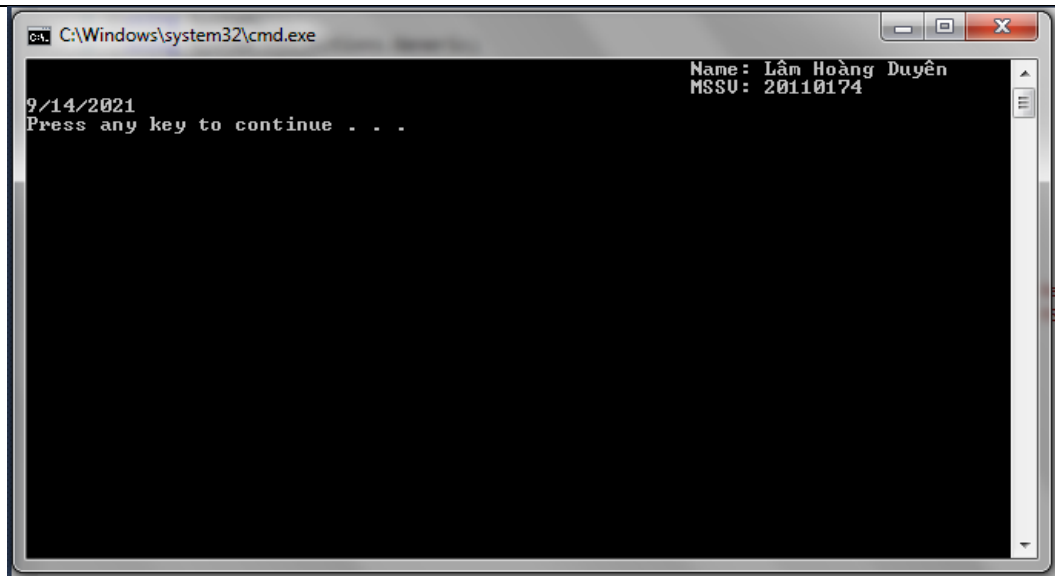
Clip 013:
Var
Keyword

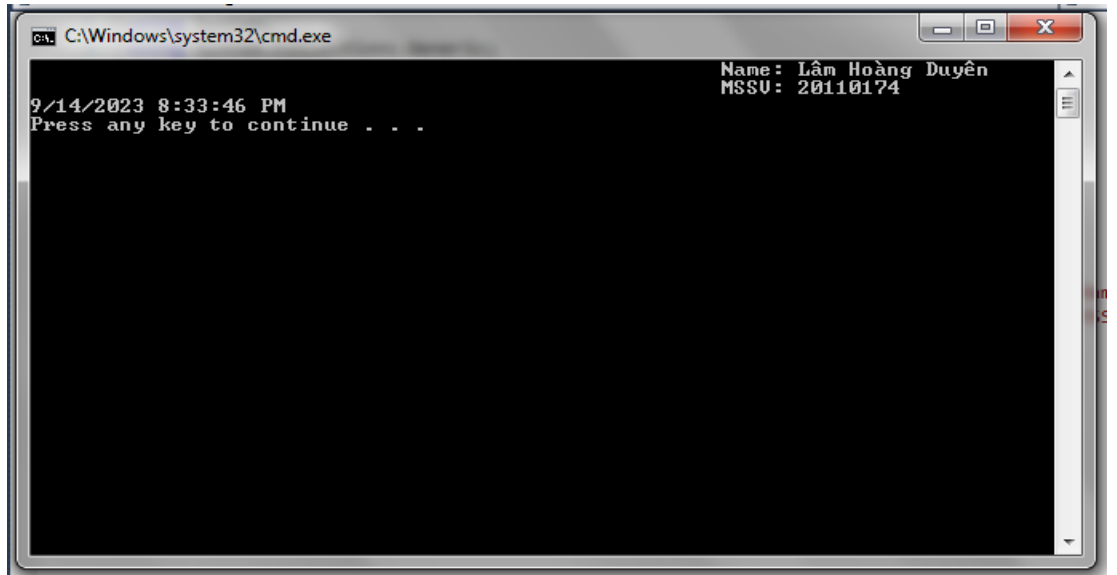
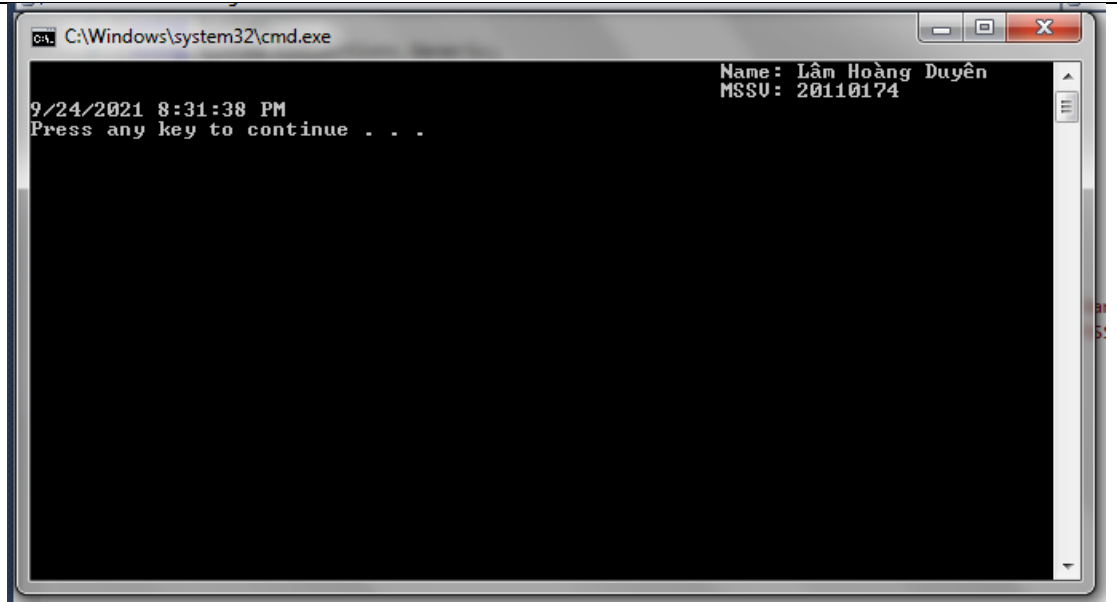


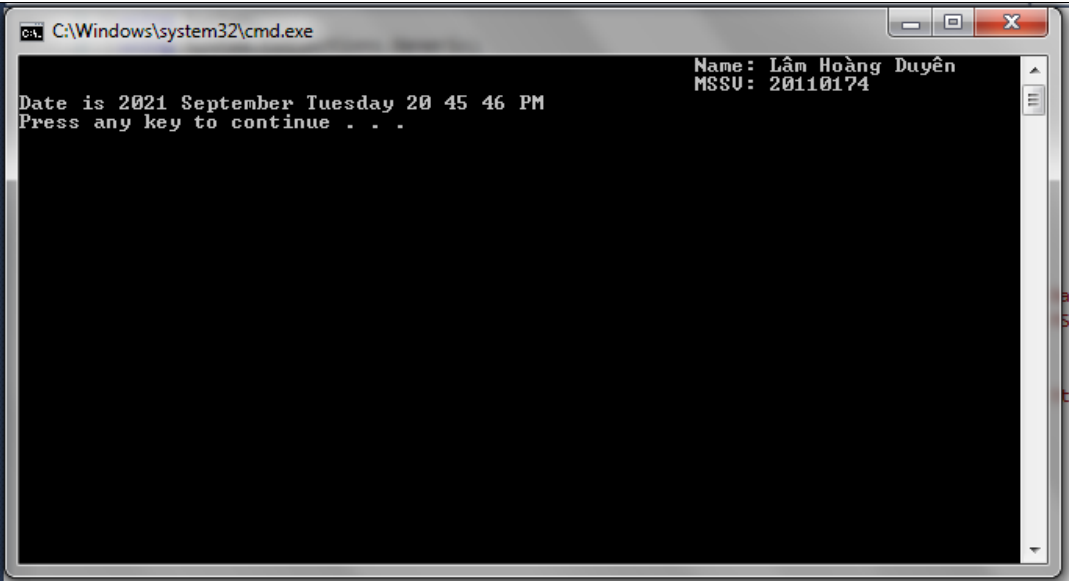
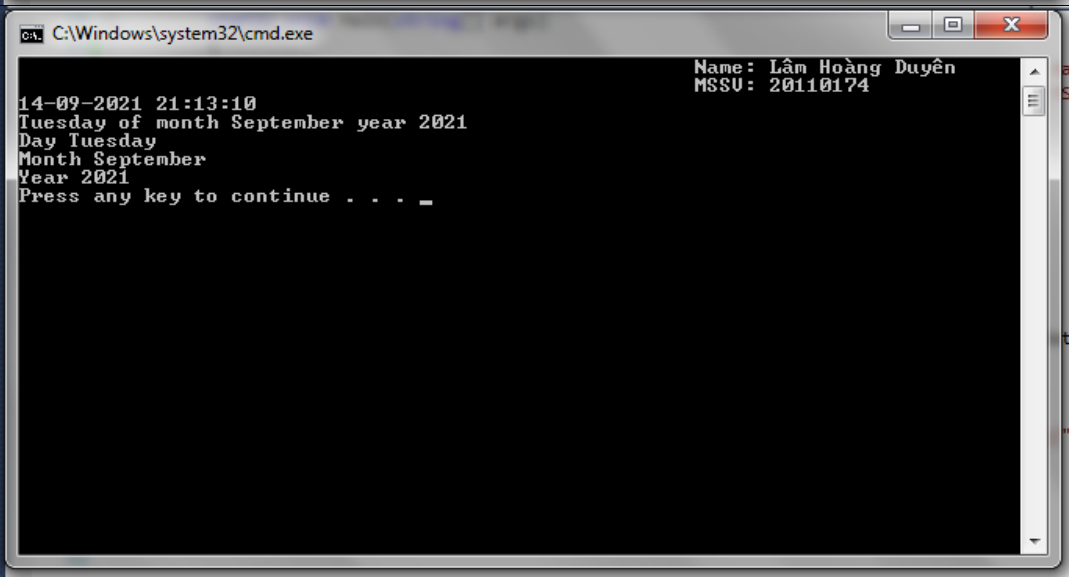
Clip 018:
DateTime

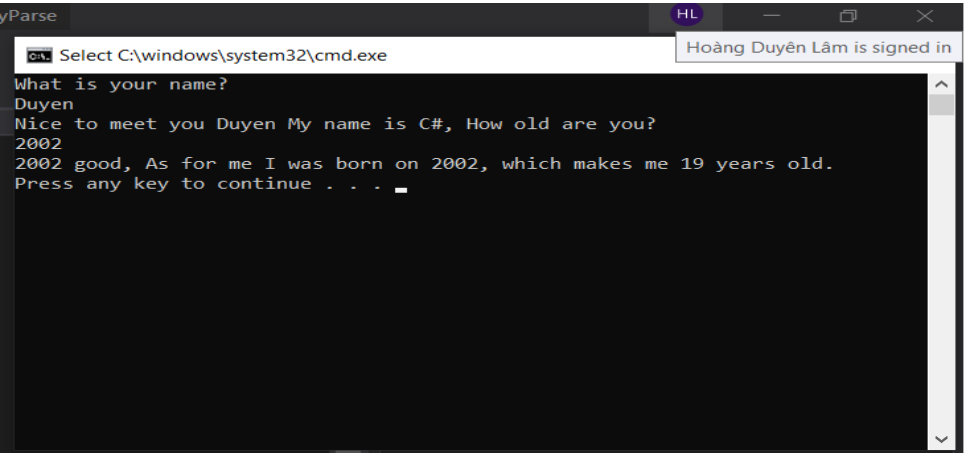
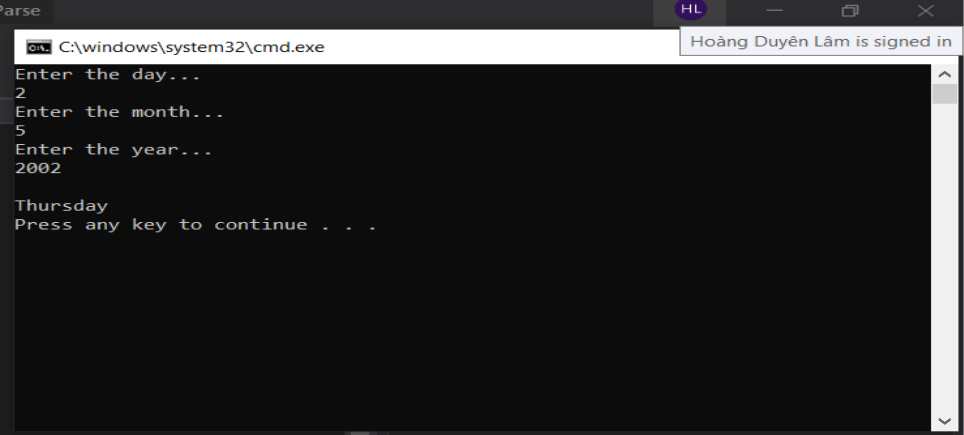
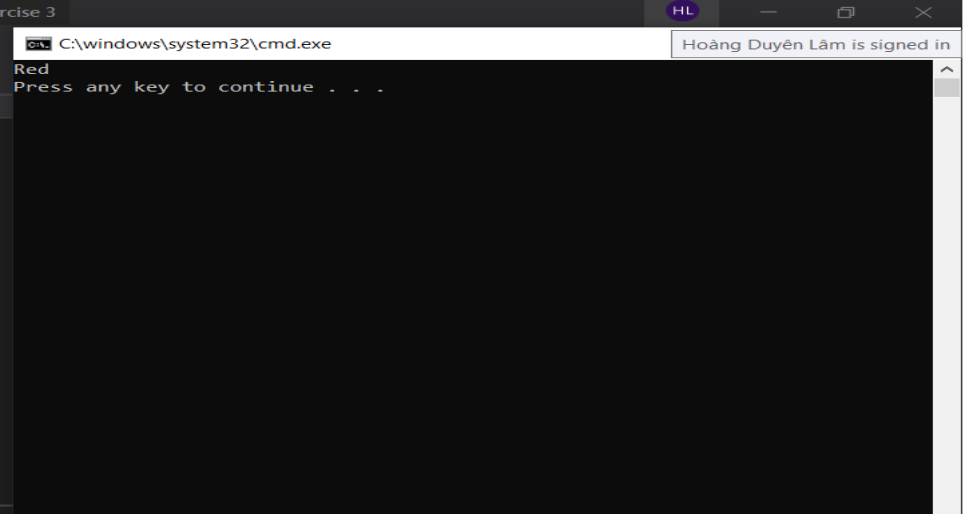




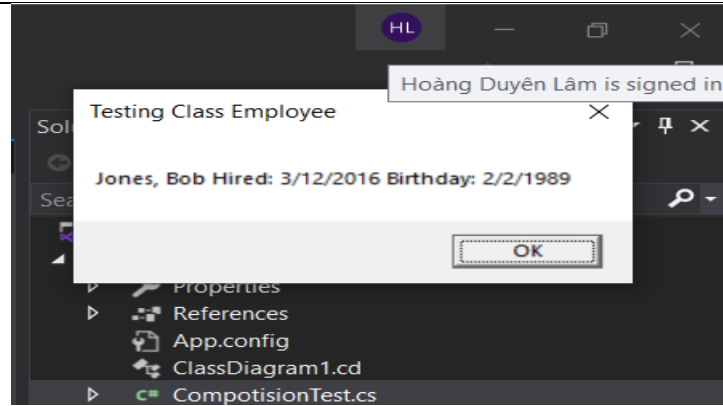




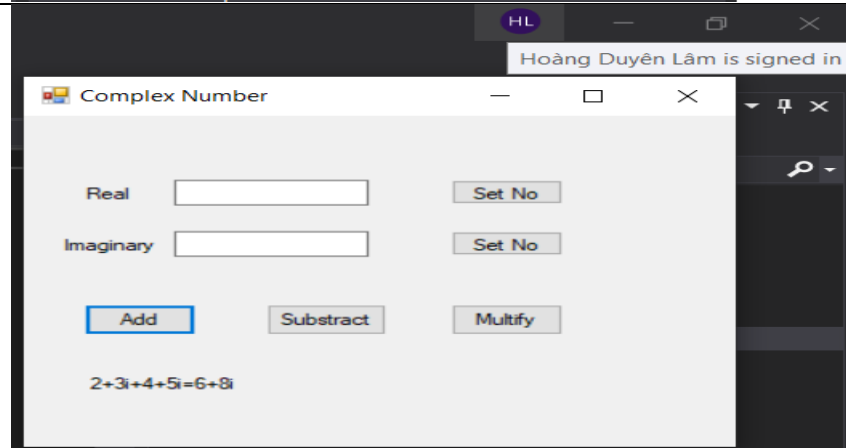
	 <p>A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The window shows the date and time: "Date is 2021 September Tuesday 20 45 46 PM". It also displays the user's name and MSSV number: "Name: Lâm Hoàng Duyên" and "MSSV: 20110174". The prompt is "Press any key to continue . . .".</p>
<p>Clip 019: DateTime Exercise</p>	 <p>A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The window shows the date and time: "14-09-2021 21:13:10". It also displays the user's name and MSSV number: "Name: Lâm Hoàng Duyên" and "MSSV: 20110174". The prompt is "Press any key to continue . . .".</p>

<p>Day 01:</p> <p>Week: 4</p>	<p>Title:</p>
<p>Problem 01:</p>	<p>Solution:</p>  <p>The screenshot shows a Windows application window titled "yParse" with a standard Windows title bar (minimize, maximize, close buttons) and a taskbar icon. The window content is a black console window with white text. The text shows a conversation: "What is your name?" followed by "Duyen", "Nice to meet you Duyen My name is C#, How old are you?" followed by "2002", and "2002 good, As for me I was born on 2002, which makes me 19 years old." followed by "Press any key to continue . . .". The window's title bar also shows "C:\windows\system32\cmd.exe" and a user notification "Hoàng Duyên Lâm is signed in".</p>
<p>Problem 02:</p>	 <p>The screenshot shows a Windows application window titled "Parse" with a standard Windows title bar and a taskbar icon. The window content is a black console window with white text. The text shows a date calculation program: "Enter the day..." followed by "2", "Enter the month..." followed by "5", "Enter the year..." followed by "2002", and the result "Thursday" followed by "Press any key to continue . . .". The window's title bar also shows "C:\windows\system32\cmd.exe" and a user notification "Hoàng Duyên Lâm is signed in".</p>
<p>Problem 03:</p>	 <p>The screenshot shows a Windows application window titled "Exercise 3" with a standard Windows title bar and a taskbar icon. The window content is a black console window with white text. The text shows a simple program output: "Red" followed by "Press any key to continue . . .". The window's title bar also shows "C:\windows\system32\cmd.exe" and a user notification "Hoàng Duyên Lâm is signed in".</p>

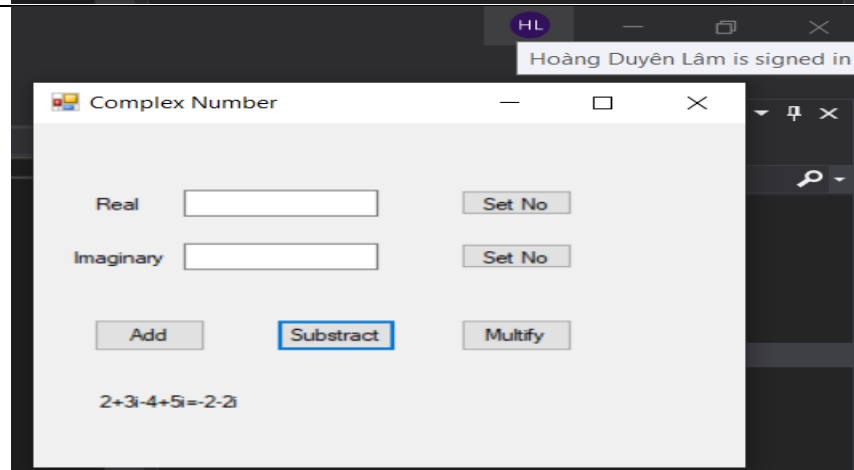
Problem 04:



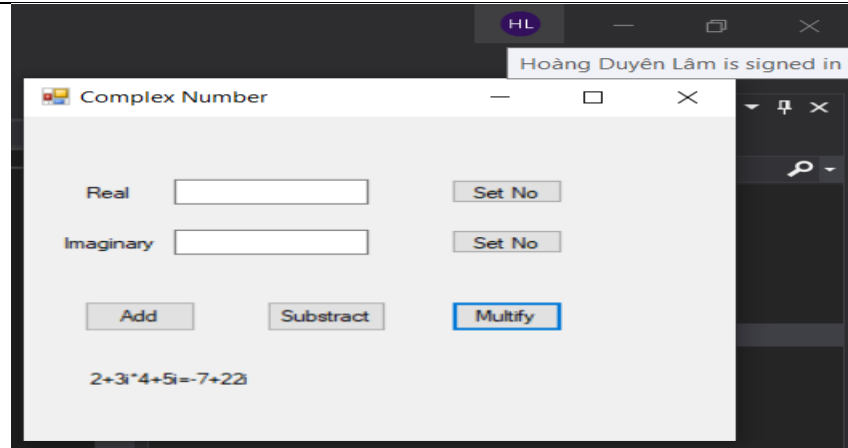
Problem 05:



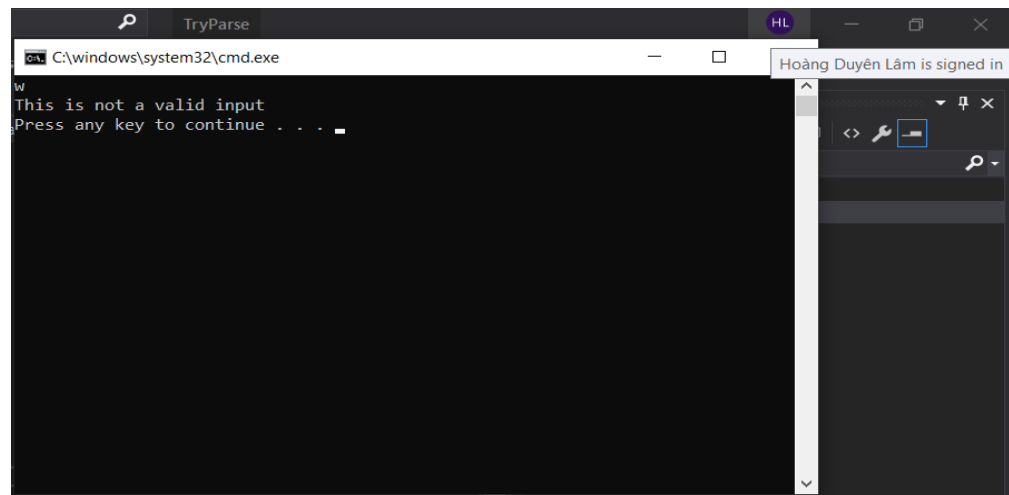
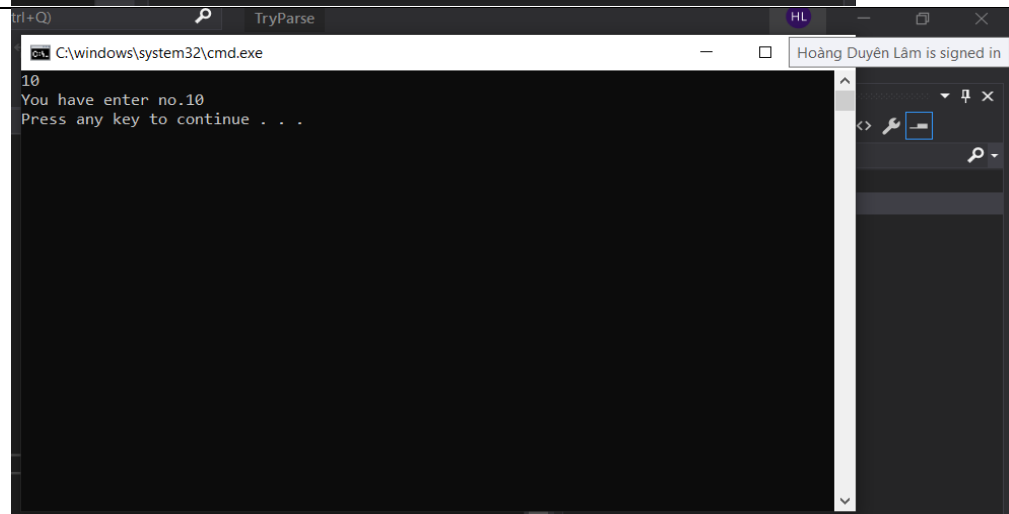
Problem 06:



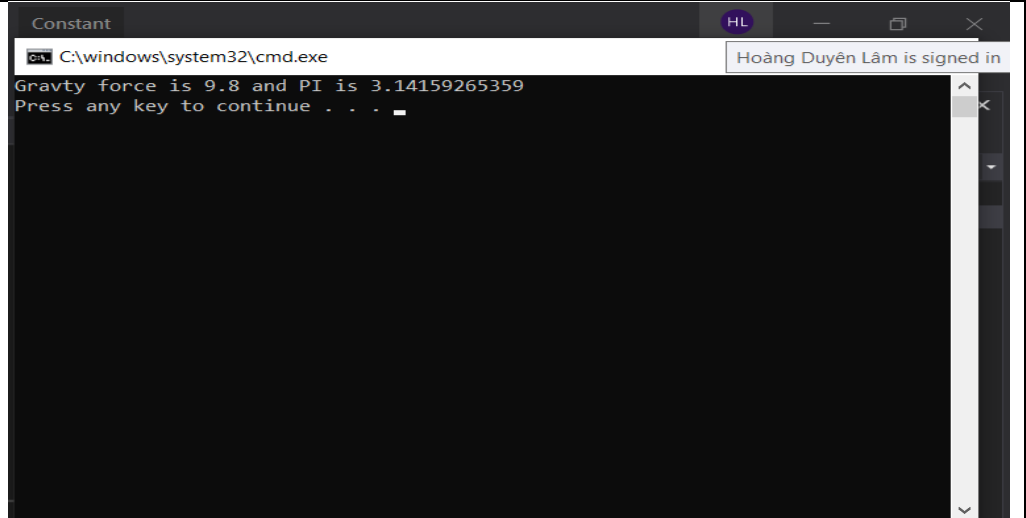
Problem 07:



Clip 035 TryParse

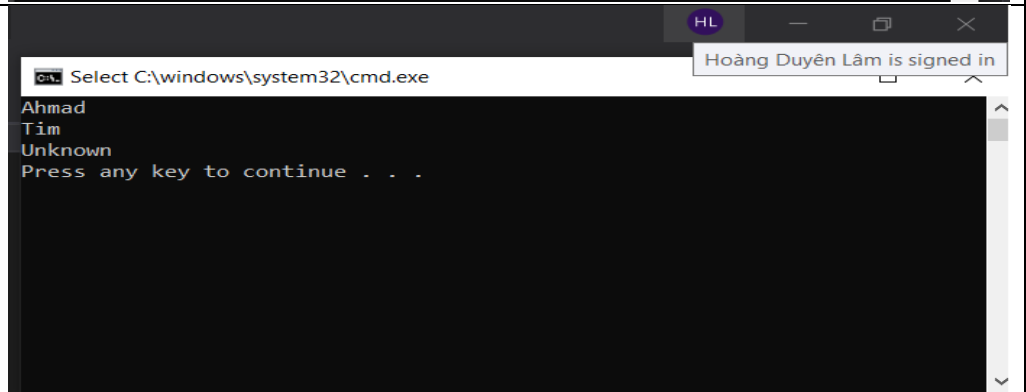


Clip 036 Constants

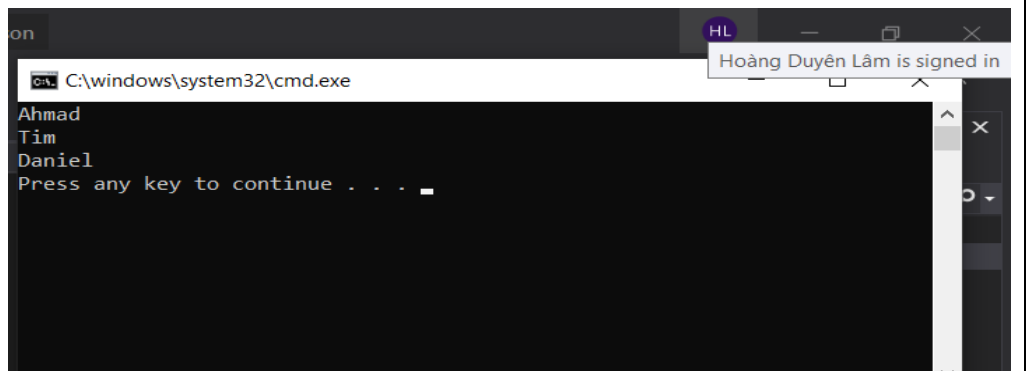


```
Constant
C:\windows\system32\cmd.exe
Gravty force is 9.8 and PI is 3.14159265359
Press any key to continue . . .
```

Clip 062 Constructors

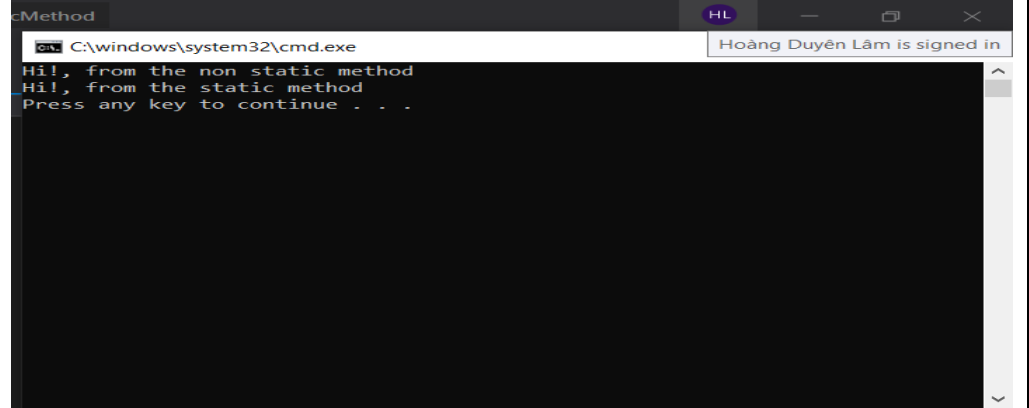


```
Select C:\windows\system32\cmd.exe
Ahmad
Tim
Unknown
Press any key to continue . . .
```

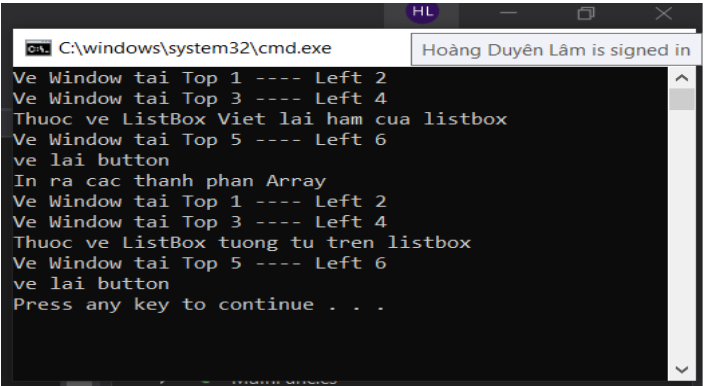
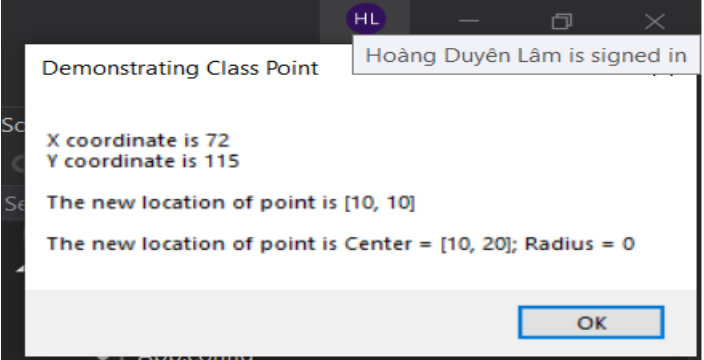
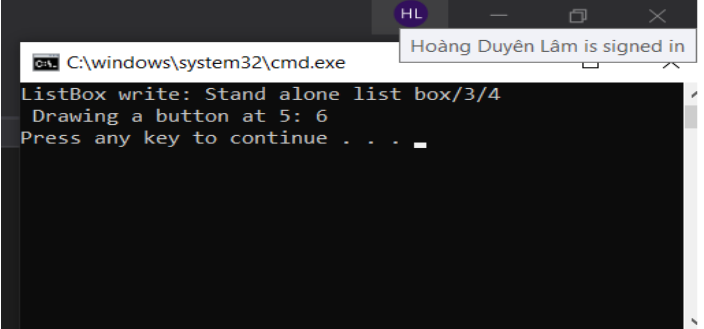
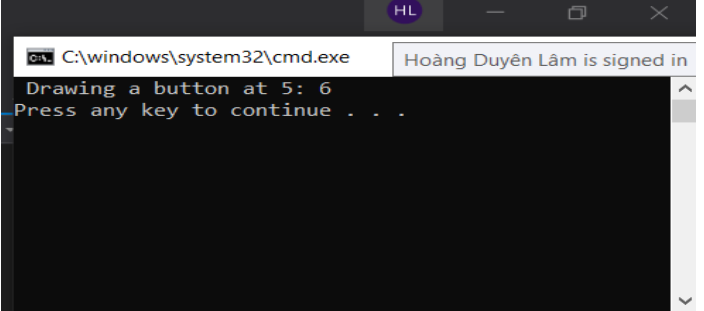


```
on
C:\windows\system32\cmd.exe
Ahmad
Tim
Daniel
Press any key to continue . . .
```

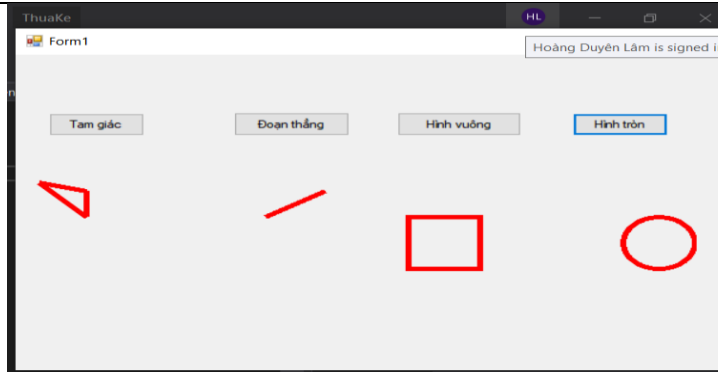
Clip 064 Static Methods



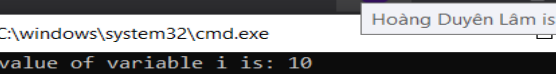
```
cMethod
C:\windows\system32\cmd.exe
Hi!, from the non static method
Hi!, from the static method
Press any key to continue . . .
```

<p>Day 01:</p> <p>Week: 6</p>	<p>Title:</p>
<p>Problem 01:</p>	<p>Solution:</p>  <pre> C:\windows\system32\cmd.exe Ve Window tai Top 1 ---- Left 2 Ve Window tai Top 3 ---- Left 4 Thuoc ve ListBox Viet lai ham cua listbox Ve Window tai Top 5 ---- Left 6 ve lai button In ra cac thanh phan Array Ve Window tai Top 1 ---- Left 2 Ve Window tai Top 3 ---- Left 4 Thuoc ve ListBox tuong tu tren listbox Ve Window tai Top 5 ---- Left 6 ve lai button Press any key to continue . . . </pre>
<p>Problem 02:</p>	 <pre> Demonstrating Class Point X coordinate is 72 Y coordinate is 115 The new location of point is [10, 10] The new location of point is Center = [10, 20]; Radius = 0 OK </pre>
<p>Problem 03:</p>	 <pre> C:\windows\system32\cmd.exe ListBox write: Stand alone list box/3/4 Drawing a button at 5: 6 Press any key to continue . . . </pre>
<p>Problem 04:</p>	 <pre> C:\windows\system32\cmd.exe Drawing a button at 5: 6 Press any key to continue . . . </pre>

Problem 05:



Clip 043 Loops Part 1 For Loop



The screenshot shows a Windows command prompt window with the title bar "C:\windows\system32\cmd.exe". The prompt is "C>". The user has entered a loop command that prints the value of variable i from 5 down to 3. The output shows the value of i decreasing from 5 to 3, and then a prompt to press any key to continue.

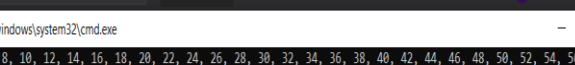
```
C> for /L %i in (5,-1,-1) do echo The value of variable i is: %i
The value of variable i is: 5
The value of variable i is: 4
The value of variable i is: 3
Press any key to continue . . .
```

Clip 044 Loops Part 2 While Loop and Do While Loop

```
C:\windows\system32\cmd.exe
Hoàng Duyên Lâm is signed in
While Loop
Game of thrones season 08
Game of thrones season 07
Game of thrones season 06
Game of thrones season 05
Game of thrones season 04
-----
Do While Loop
This is line no.1
This is line no.2
This is line no.3
This is line no.4
This is line no.5
This is line no.6
This is line no.7
This is line no.8
This is line no.9
This is line no.10
Press any key to continue . . .
```

Clip 045 Loops Part 3 Nested Loops

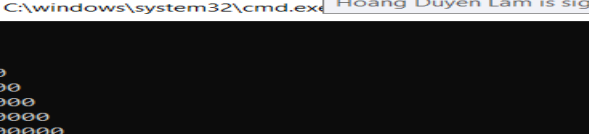
Clip 046 Loops Exercise



The screenshot shows a Windows Command Prompt window with the title bar "Help Search (Ctrl+Q) EvenNumber HL". The command prompt shows the command "Select C:\windows\system32\cmd.exe" and a list of even numbers from 0 to 500, displayed in a grid-like format. The numbers are arranged in rows of 16, with the last row containing 15 numbers. The prompt "Press any key to continue . . ." is visible at the bottom.

0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122
124	126	128	130	132	134	136	138	140	142	144	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	
184	186	188	190	192	194	196	198	200	202	204	206	208	210	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	
244	246	248	250	252	254	256	258	260	262	264	266	268	270	272	274	276	278	280	282	284	286	288	290	292	294	296	298	300	302	
304	306	308	310	312	314	316	318	320	322	324	326	328	330	332	334	336	338	340	342	344	346	348	350	352	354	356	358	360	362	
364	366	368	370	372	374	376	378	380	382	384	386	388	390	392	394	396	398	400	402	404	406	408	410	412	414	416	418	420	422	
424	426	428	430	432	434	436	438	440	442	444	446	448	450	452	454	456	458	460	462	464	466	468	470	472	474	476	478	480	482	
484	486	488	490	492	494	496	498	500																						

Press any key to continue . . .

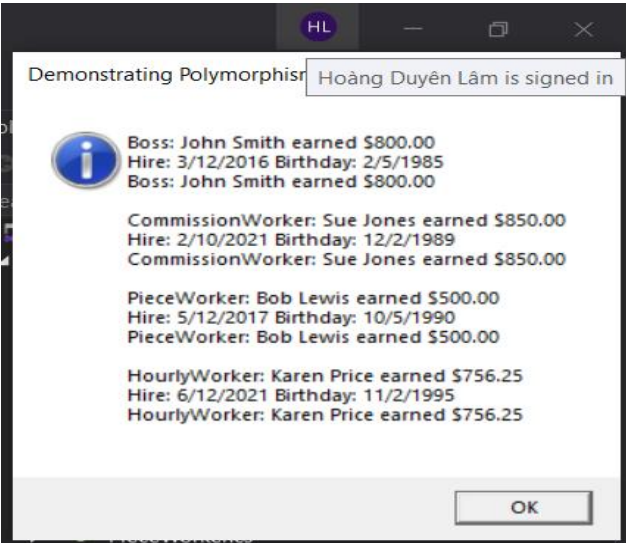


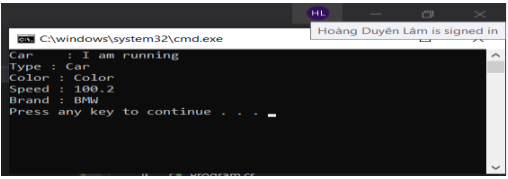
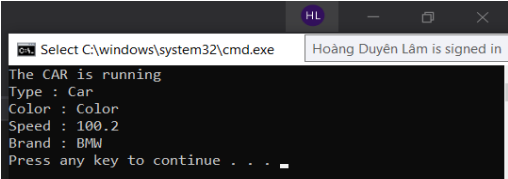
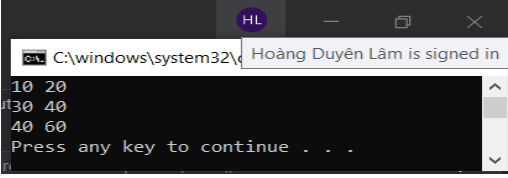
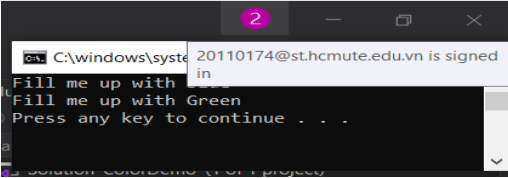
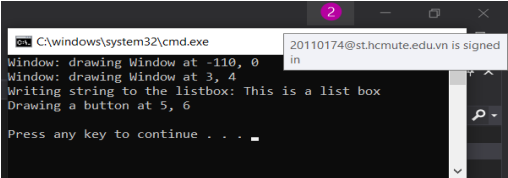
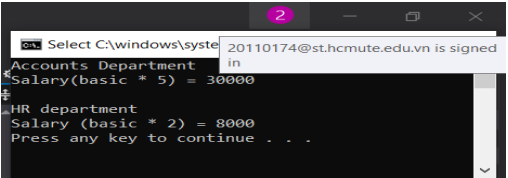
A screenshot of a Windows command prompt window. The title bar shows the file path "C:\windows\system32\cmd.exe" and a notification "Hoàng Duyên Lâm is signed in". The command prompt displays a large ASCII art of a cat, constructed from various patterns of 'o' and '0' characters. The cat is facing right. Below the ASCII art, the text "Press any key to continue . . ." is visible. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

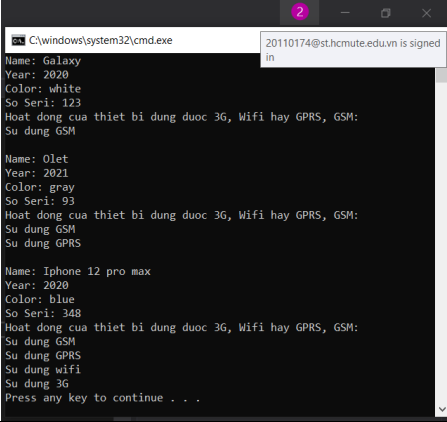
Clip 066

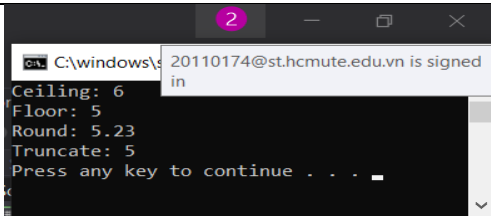
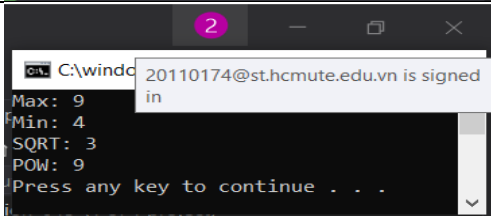
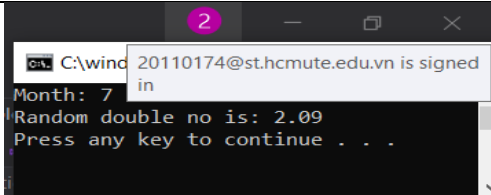
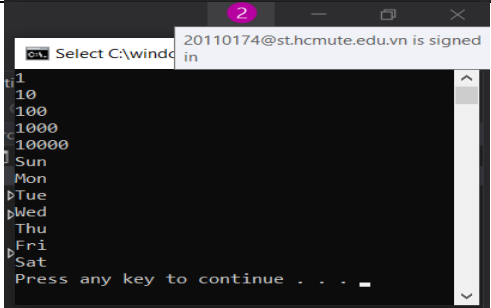
Inheritance

Inheritance: Inheritance enables new objects to inherit the properties of existing objects. A class that is used as the basis for inheritance is called a superclass or baseclass. A class that inherits from a superclass is called a subclass or derivedclass

Day 01: Week: 7	Title:
Problem 01:	Solution: 

<p>Day 01:</p> <p>Week: 8</p>	<p>Title:</p>
<p>Problem 01:</p>	<p>Solution:</p>      

<p>Problem 02:</p>	
<p>Clip 087 Interfaces</p>	
<p>Clip 088 Interfaces VS Abstract Classes</p>	<p>So sánh Interface và Abstract Class:</p> <ul style="list-style-type: none"> - Similarities: <ul style="list-style-type: none"> + Can't be instantiated directly + Must implement all its members + Can contain events, methods and properties - Differences: - Interface: <ul style="list-style-type: none"> + Can't have method implementation + Allow multiple inheritance + Can't have access modifiers, everything is public + Can't contain variables - Abstract Class: <ul style="list-style-type: none"> + Can have method implementation + Doesn't allow multiple inheritance + Can contain access modifiers + Can contain variables.

Day 01: Week: 9	Title:
Problem 01:	Solution: <i>(Sinhviênchupkếtquảvà paste vàođây)</i>
Clip 047 Math Part 1	
Clip 048 Math Part 2	
Clip 049 Random Numbers	
Clip 050 Arrays	

Clip 118 Non generic ArrayList

```
C:\windows\system32\cmd.exe 20110174@st.hcmute.edu.vn is signed in
At first
James
David
Charles
Ahmad
-----
After insertion
Count is 4
James
David
Tin
Charles
Ahmad
-----
Tin
-----
Count is 5
-----
After sorting
Ahmad
Charles
David
James
Tin
-----
After reversing
Tin
James
David
Charles
```

```
C:\windows\system32\cmd.exe 20110174@st.hcmute.edu.vn is signed in
After reversing
Tin
James
David
Charles
Ahmad
-----
After removing
Tin
James
David
Charles
Ahmad
-----
After Removing some
Tin
James
David
Charles
Ahmad
-----
After Removing some
True
Tin
James
Press any key to continue . . .
```

Clip 119 Non generic Hashtable

```
C:\windows\system32\cmd.exe 20110174@st.hcmute.edu.vn is signed in
IKEA:Sweden
Mercedes:Germany
Microsoft:USA
Sony:Japan
Count is 4
-----
After Removing
IKEA:Sweden
Mercedes:Germany
Microsoft:USA
Sony:Japan
-----
Contains condition
No it is not
-----
After copying
IKEA
Mercedes
Microsoft
Sony
Press any key to continue . . .
```

Clip 120 Non
generic
SortedList

```
C:\windows\system32\cmd.exe 20110174@st.hcmute.edu.vn is signed in
1: Jan
2: Feb
3: Mar
4: Apr
5: May
1: Jan
2: Feb
3: Mar
4: Apr
5: May
May
5
2: Feb
3: Mar
4: Apr
5: May
True
Now we are inside the array list
Feb
Mar
Apr
May
Press any key to continue . . .
```

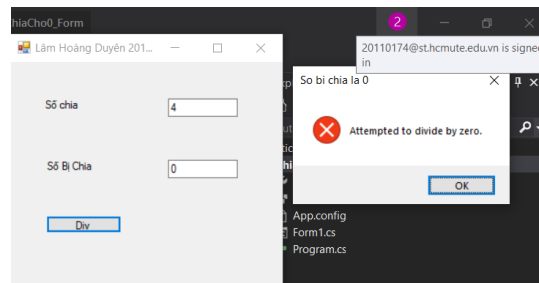
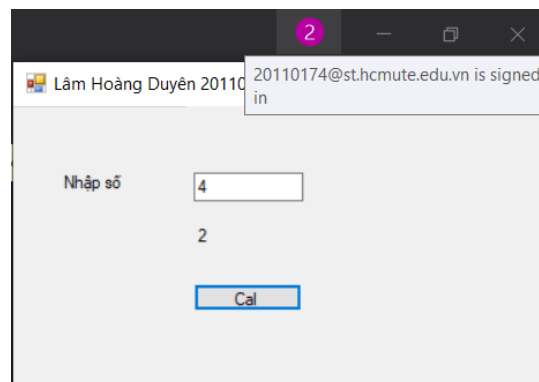
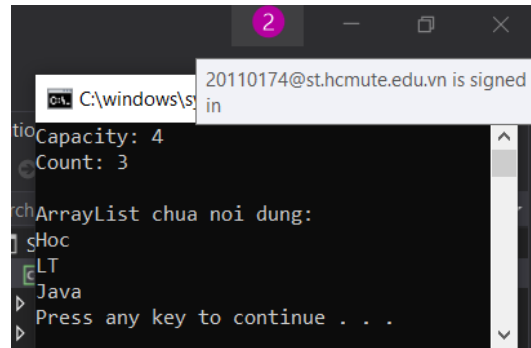
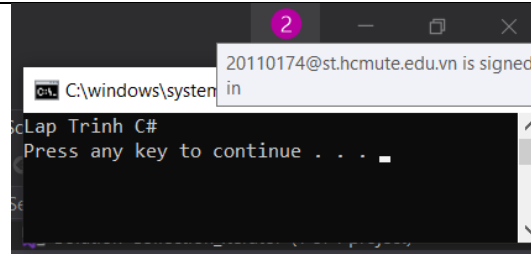
Clip 121 Non
generic Stack

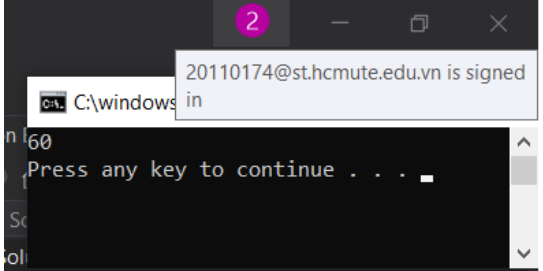
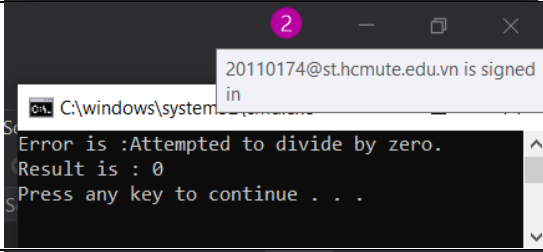
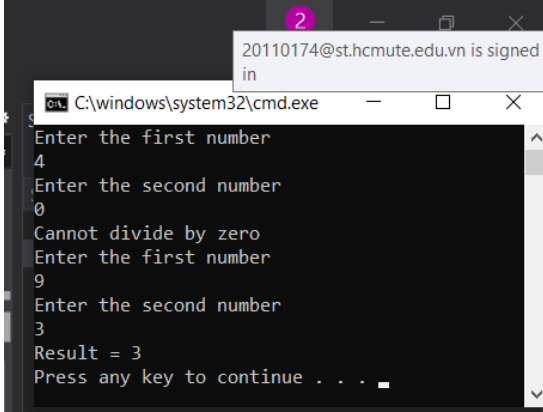
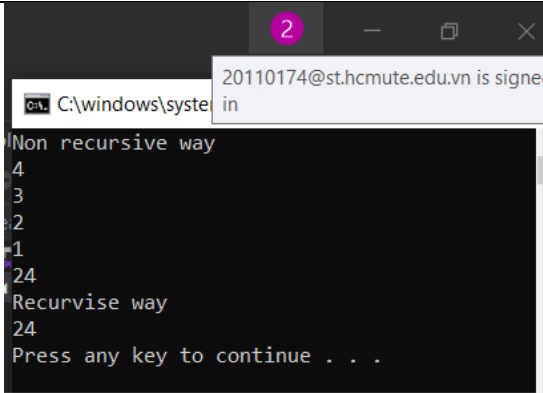
```
C:\windows\system32\cmd.exe 20110174@st.hcmute.edu.vn is signed in
Select C:\Windows\system32\cmd.exe
Emma
Jack
Emmy
David
Press any key to continue . . .
```

Clip 122 Non
generic Queue

```
C:\windows\system32\cmd.exe 20110174@st.hcmute.edu.vn is signed in
Tom
Emma
Cavin
Tom
Emma
Press any key to continue . . .
```

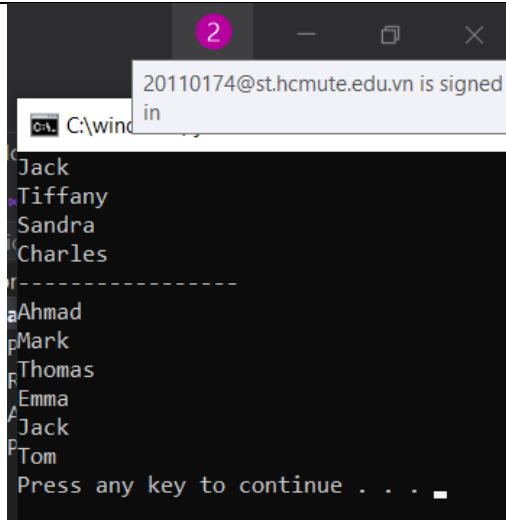
<p>Day 01:</p> <p>Week: 11</p>	<p>Title:</p>
<p>Problem 01:</p>	<p>Solution:</p>  <p>The solution consists of three screenshots of a C# console application running in Visual Studio. Each screenshot shows a Windows security warning: '20110174@st.hcmute.edu.vn is signed in'. The first screenshot shows the program output: 'Phan Tren cua Stack', '_First_Out', 'Last_In_First_Out', and 'Press any key to continue . . .'. The second screenshot shows the program output: 'So luong thanh phan trong hash tbl 3', 'Gia tri ban dau:', '3:Khoi', '2:Minh', '1:Cuong', 'Gia tri moi:', '3:Khoi', '2:Thanh', '1:Cuong', and 'Press any key to continue . . .'. The third screenshot shows the program output: 'Value 1: Hello', 'Value 2: Them 1 thanh phan vao', 'Value 3: A', 'Value 4: B', 'Value 5: C', 'Value 6: D', 'Value 7: E', 'Value 8:', 'Value 9:', and 'Value 10:'.</p>



Clip 082:	
Clip 089:	
Clip 090:	
Clip 101:	string is a keyword in Base Class Library System.String in Framework Class Library
Clip 117:	Collection is a groups of related objects - Collection provide a more flexible way to work with groups of objects - Collections are enhancement to the arrays
Clip 148:	

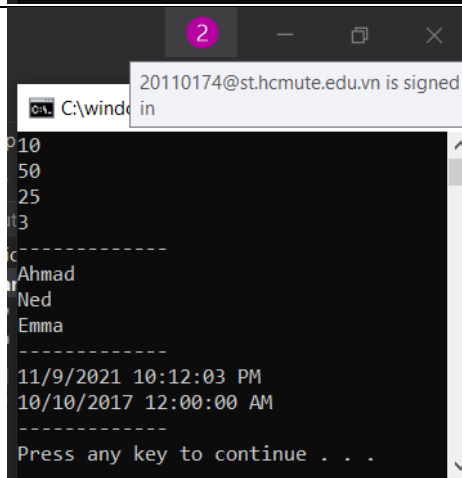
<p>Clip 149:</p>	
<p>Clip 150:</p>	
<p>Clip 151:</p>	
<p>Clip 152:</p>	

Clip 153:



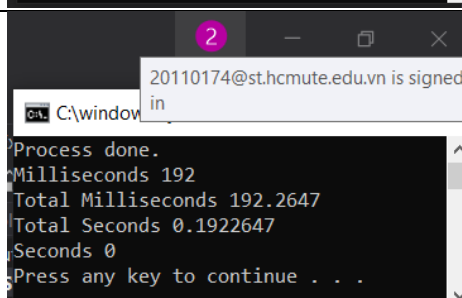
A screenshot of a Windows command prompt window. The title bar shows a pink icon with the number '2'. A notification bubble in the top right corner says '20110174@st.hcmute.edu.vn is signed in'. The command prompt shows a list of names: Jack, Tiffany, Sandra, Charles, followed by a dashed line, then Ahmad, Mark, Thomas, Emma, Jack, and Tom. The prompt ends with 'Press any key to continue '.

Clip 154:



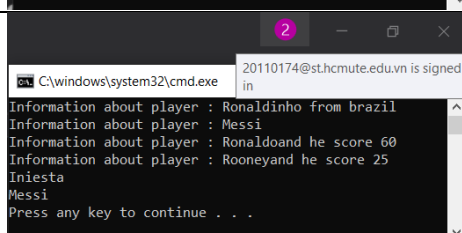
A screenshot of a Windows command prompt window. The title bar shows a pink icon with the number '2'. A notification bubble in the top right corner says '20110174@st.hcmute.edu.vn is signed in'. The command prompt shows a list of names: Ahmad, Ned, Emma, followed by a dashed line, then the dates '11/9/2021 10:12:03 PM' and '10/10/2017 12:00:00 AM'. The prompt ends with 'Press any key to continue . . . '.

Clip 158:



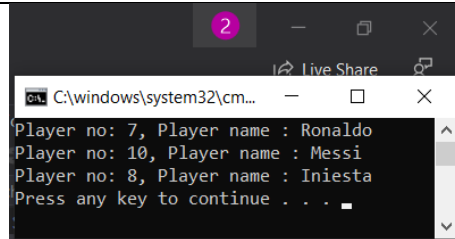
A screenshot of a Windows command prompt window. The title bar shows a pink icon with the number '2'. A notification bubble in the top right corner says '20110174@st.hcmute.edu.vn is signed in'. The command prompt shows the following text: 'Process done.', 'Milliseconds 192', 'Total Milliseconds 192.2647', 'Total Seconds 0.1922647', 'Seconds 0', and 'Press any key to continue . . . '.

Clip 159:



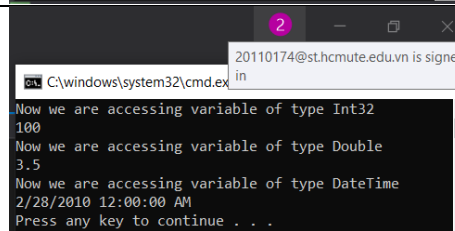
A screenshot of a Windows command prompt window. The title bar shows a pink icon with the number '2'. A notification bubble in the top right corner says '20110174@st.hcmute.edu.vn is signed in'. The command prompt shows the following text: 'Information about player : Ronaldinho from brazil', 'Information about player : Messi', 'Information about player : Ronaldoand he score 60', 'Information about player : Rooneyand he score 25', 'Iniesta', 'Messi', and 'Press any key to continue . . . '.

Clip 162:



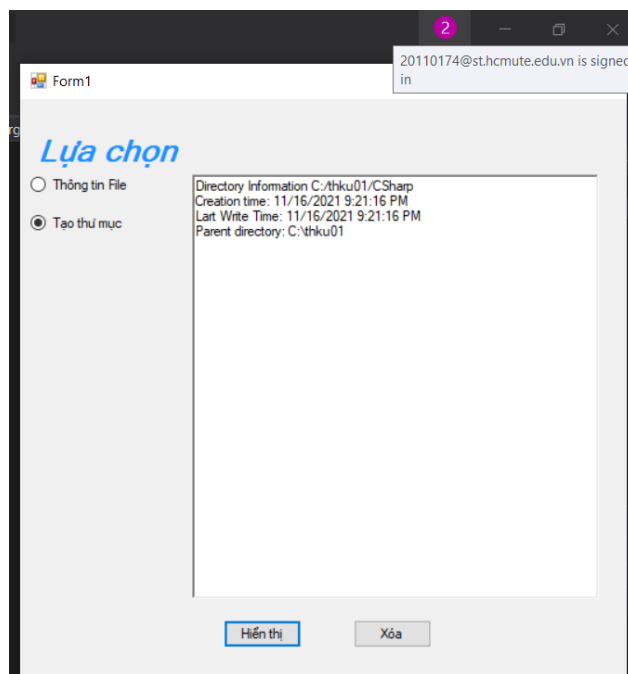
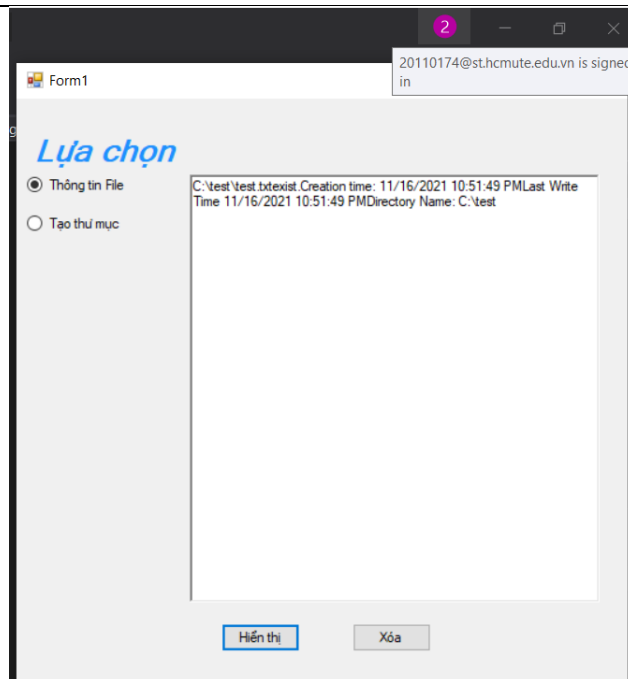
A screenshot of a Windows command prompt window. The title bar shows the path 'C:\windows\system32\cmd...' and standard window controls. The command prompt displays the following text: 'Player no: 7, Player name : Ronaldo', 'Player no: 10, Player name : Messi', 'Player no: 8, Player name : Iniesta', and 'Press any key to continue . . .'. A small pink circle with the number '2' is visible in the top left corner of the window.

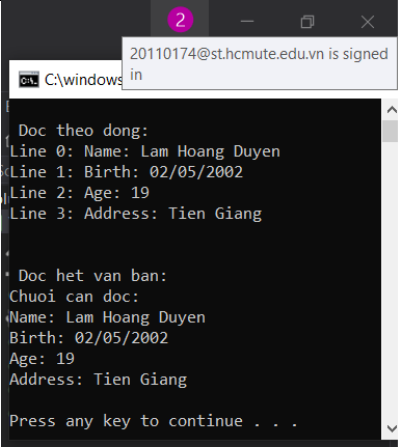
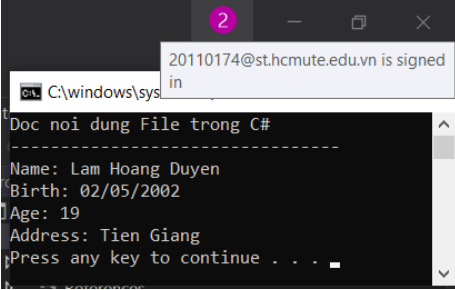
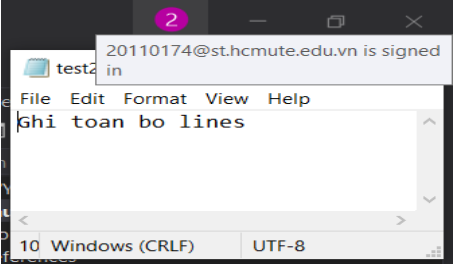
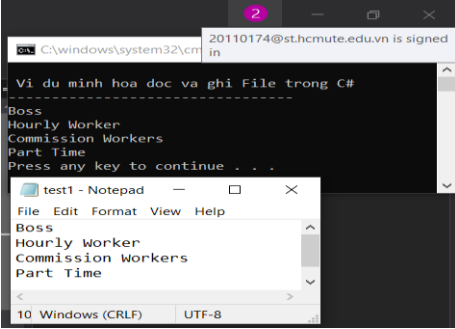
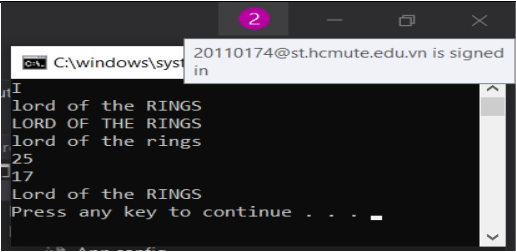
Clip 164:

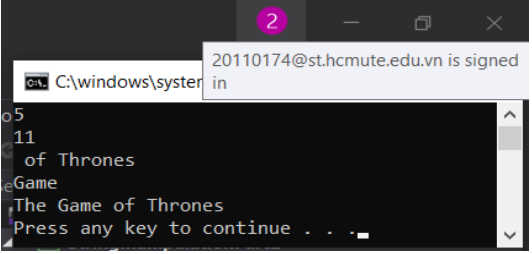
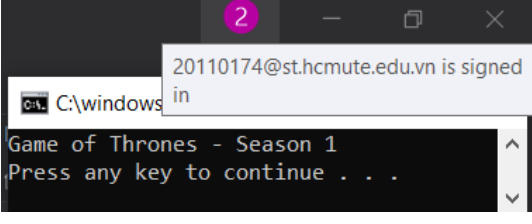
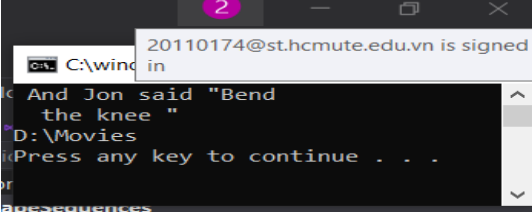
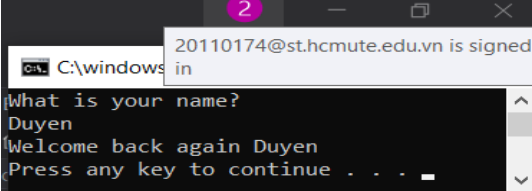


A screenshot of a Windows command prompt window. The title bar shows the path 'C:\windows\system32\cmd.exe' and standard window controls. A security notification banner at the top states '20110174@st.hcmute.edu.vn is signed in'. The command prompt displays the following text: 'Now we are accessing variable of type Int32', '100', 'Now we are accessing variable of type Double', '3.5', 'Now we are accessing variable of type DateTime', '2/28/2010 12:00:00 AM', and 'Press any key to continue . . .'. A small pink circle with the number '2' is visible in the top left corner of the window.

Day 01: Week: 12	Title:
Problem 01:	Solution:  <p>The solution consists of three screenshots of a Windows command prompt window. Each window has a title bar with a pink circle containing the number '2' and a notification bubble that says '20110174@st.hcmute.edu.vn is signed in'. The command prompt shows the following sequence of commands and outputs:</p> <pre>C:\windows\system32>cd C:/test C:/test/test.txt exist Please enter a new name for this file: C:/test/testFile.txt The file was renamed to C:/test/testFile.txt</pre> <p>The second screenshot shows the same sequence of commands and outputs, but with a slight difference in the path shown in the command prompt:</p> <pre>C:\windows\system32\cmd>cd C:/test C:/test/test.txt exist Please enter a new name for this file: C:/test/testFile.txt The file was renamed to C:/test/testFile.txt</pre> <p>The third screenshot shows the same sequence of commands and outputs, but with a slight difference in the path shown in the command prompt:</p> <pre>C:\windows\system32>cd C:/test C:/test/CSharp exist Please enter a new name for this directory: C:/test/Java The directory was renamed to C:/test/Java</pre>



	 <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows</p> <pre>Doc theo dong: Line 0: Name: Lam Hoang Duyen Line 1: Birth: 02/05/2002 Line 2: Age: 19 Line 3: Address: Tien Giang Doc het van ban: Chuoai can doc: Name: Lam Hoang Duyen Birth: 02/05/2002 Age: 19 Address: Tien Giang Press any key to continue . . .</pre>  <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\sys</p> <pre>Doc noi dung File trong C# ----- Name: Lam Hoang Duyen Birth: 02/05/2002 Age: 19 Address: Tien Giang Press any key to continue . . .</pre>  <p>20110174@st.hcmute.edu.vn is signed in</p> <p>test2</p> <p>File Edit Format View Help</p> <p>ghi toan bo lines</p> <p>10 Windows (CRLF) UTF-8</p>  <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\system32\cm</p> <pre>Ví dụ minh họa đọc và ghi File trong C# ----- Boss Hourly Worker Commission Workers Part Time Press any key to continue . . .</pre> <p>test1 - Notepad</p> <p>File Edit Format View Help</p> <p>Boss Hourly Worker Commission Workers Part Time</p> <p>10 Windows (CRLF) UTF-8</p>
<p>Clip 038 String Manipulation Part 1</p>	 <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\sys</p> <pre>Lord of the RINGS LORD OF THE RINGS lord of the rings 25 17 Lord of the RINGS Press any key to continue . . .</pre>

Clip 039 String Manipulation Part 2	 <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\system32\cmd.exe</p> <p>o5 11 of Thrones Game The Game of Thrones Press any key to continue . . .</p>	
Clip 040 String Manipulation Exercise	 <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\system32\cmd.exe</p> <p>Game of Thrones - Season 1 Press any key to continue . . .</p>	
Clip 041 Escape Sequences	 <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\system32\cmd.exe</p> <p>And Jon said "Bend the knee " D:\Movies Press any key to continue . . .</p>	
Clip 042 String Interpolation	 <p>20110174@st.hcmute.edu.vn is signed in</p> <p>C:\windows\system32\cmd.exe</p> <p>What is your name? Duyen Welcome back again Duyen Press any key to continue . . .</p>	
Clip 184 Introduction to LINQ	<p>- LINQ stands for Language-Integrated Query, it is a query syntax used to bridges the gap between the world of objects and the world of data.</p>	

Clip 185 LINQ Method Syntax

```
ntax
C:\windows\system32\cmd.exe
20110174@sthcmute.edu.vn is signed in
All Employees
-----
Jack Steven, 5000, 35, last 5 apparisals [7|7|8|9|7|
Debora Watson, 10000, 45, last 5 apparisals [9|9|8|9|8|
Claire Adam, 7500, 32, last 5 apparisals [9|7|8|9|7|
Michael Rob, 3500, 22, last 5 apparisals [6|7|8|7|7|
Matthew Forest, 4500, 28, last 5 apparisals [7|7|6|6|7|
Charles Kris, 8000, 27, last 5 apparisals [8|9|7|8|8|
Robert Wilson, 8000, 28, last 5 apparisals [8|9|8|9|9|
Emma Brooks, 6000, 23, last 5 apparisals [8|6|9|9|7|
Jennifer Blake, 3000, 38, last 5 apparisals [6|7|7|6|6|
Terry Loyd, 9000, 49, last 5 apparisals [9|9|9|8|7|
Adam Spencer, 7000, 33, last 5 apparisals [8|8|8|6|7|
Stacy Shelton, 4000, 25, last 5 apparisals [8|7|8|6|7|

Debora
Charles
Robert
Terry

Press any key to continue . . .
```

Clip 186 LINQ Method Syntax Exercise

```
odSyntaxExercise
C:\windows\system32\cmd.exe
20110174@sthcmute.edu.vn is signed in
All Employees
-----
Jack Steven, 5000, 35, last 5 apparisals [7|7|8|9|7|
Debora Watson, 10000, 45, last 5 apparisals [9|9|8|9|8|
Claire Adam, 7500, 32, last 5 apparisals [9|7|8|9|7|
Michael Rob, 3500, 22, last 5 apparisals [6|7|8|7|7|
Matthew Forest, 4500, 28, last 5 apparisals [7|7|6|6|7|
Charles Kris, 8000, 27, last 5 apparisals [8|9|7|8|8|
Robert Wilson, 8000, 28, last 5 apparisals [8|9|8|9|9|
Emma Brooks, 6000, 23, last 5 apparisals [8|6|9|9|7|
Jennifer Blake, 3000, 38, last 5 apparisals [6|7|7|6|6|
Terry Loyd, 9000, 49, last 5 apparisals [9|9|9|8|7|
Adam Spencer, 7000, 33, last 5 apparisals [8|8|8|6|7|
Stacy Shelton, 4000, 25, last 5 apparisals [8|7|8|6|7|

Employees : last apparisal less than 8 and salary greater than 4000
-----
Jack Steven, 5000, 35, last 5 apparisals [7|7|8|9|7|
Matthew Forest, 4500, 28, last 5 apparisals [7|7|6|6|7|

Press any key to continue . . .
```

Clip 187 LINQ Query Syntax

```
C:\windows\system32\cmd.exe
20110174@sthcmute.edu.vn is signed in
All Employees
-----
Jack Steven, 5000, 35, last 5 apparisals [7|7|8|9|7|
Debora Watson, 10000, 45, last 5 apparisals [9|9|8|9|8|
Claire Adam, 7500, 32, last 5 apparisals [9|7|8|9|7|
Michael Rob, 3500, 22, last 5 apparisals [6|7|8|7|7|
Matthew Forest, 4500, 28, last 5 apparisals [7|7|6|6|7|
Charles Kris, 8000, 27, last 5 apparisals [8|9|7|8|8|
Robert Wilson, 8000, 28, last 5 apparisals [8|9|8|9|9|
Emma Brooks, 6000, 23, last 5 apparisals [8|6|9|9|7|
Jennifer Blake, 3000, 38, last 5 apparisals [6|7|7|6|6|
Terry Loyd, 9000, 49, last 5 apparisals [9|9|9|8|7|
Adam Spencer, 7000, 33, last 5 apparisals [8|8|8|6|7|
Stacy Shelton, 4000, 25, last 5 apparisals [8|7|8|6|7|

Salary higher than 6000 and age above 40
-----
Debora Watson, 10000, 45, last 5 apparisals [9|9|8|9|8|
Terry Loyd, 9000, 49, last 5 apparisals [9|9|9|8|7|

Salary higher than 6000 and age above 40 or salary greater than 8000
-----
Debora Watson, 10000, 45, last 5 apparisals [9|9|8|9|8|
Charles Kris, 8000, 27, last 5 apparisals [8|9|7|8|8|
Robert Wilson, 8000, 28, last 5 apparisals [8|9|8|9|9|
Terry Loyd, 9000, 49, last 5 apparisals [9|9|9|8|7|
```

Clip 188 LINQ Query Syntax Exercise

```

C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed
in

All Employees
-----
Jack Steven, 5000, 35, last 5 apparisals [7|7|8|9|7|
Debora Watson, 10000, 45, last 5 apparisals [9|9|8|9|8|
Claire Adam, 7500, 32, last 5 apparisals [9|7|8|9|7|
Michael Rob, 3500, 22, last 5 apparisals [6|7|8|7|7|
Matthew Forest, 4500, 28, last 5 apparisals [7|7|6|6|7|
Charles Kris, 8000, 27, last 5 apparisals [8|9|7|8|8|
Robert Wilson, 8000, 28, last 5 apparisals [8|9|8|9|9|
Emma Brooks, 6000, 23, last 5 apparisals [8|6|9|9|7|
Jennifer Blake, 3000, 38, last 5 apparisals [6|7|7|6|6|
Terry Loyd, 9000, 49, last 5 apparisals [9|9|9|8|7|
Adam Spencer, 7000, 33, last 5 apparisals [8|8|8|6|7|
Stacy Shelton, 4000, 25, last 5 apparisals [8|7|8|6|7|

Employees with appraisal less than 8 and salary higher than 4000
-----
Jack Steven, 5000, 35, last 5 apparisals [7|7|8|9|7|
Matthew Forest, 4500, 28, last 5 apparisals [7|7|6|6|7|

Press any key to continue . . .

```

Day 01:
Week: 13

Title:

Problem 01:

Form1

Quản Lý Thông Tin

Thông tin sinh viên

Mã nhân viên

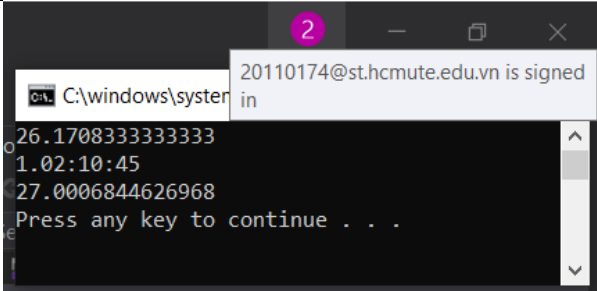
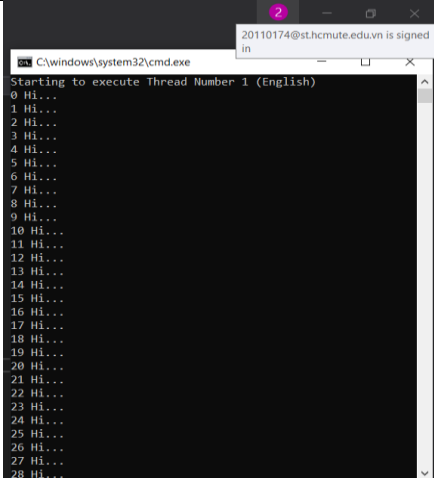
Tên nhân viên

Ban

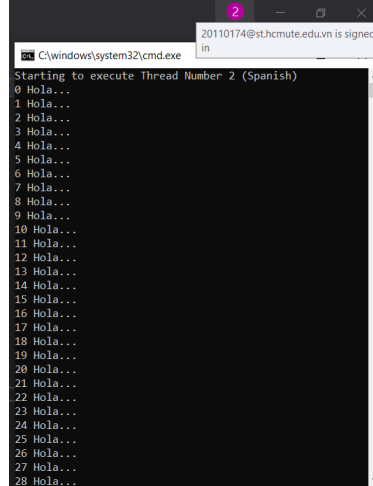
Save **Update** **Delete**

Find:

	emId	Name	Dept
▶	1	Duyên	IT
	2	Bình	HR

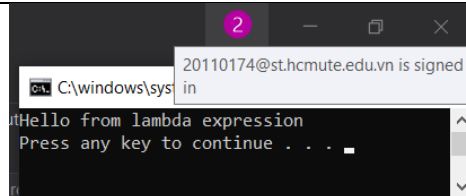
Day 01: Week: 14	Title:
Problem 01:	Solution: <i>(Sinhviênchụpkếtquảvà paste vàođây)</i>
Clip 191: TimeSpan	 <p>The screenshot shows a Windows command prompt window titled "C:\windows\system32\cmd.exe". A notification bubble at the top says "20110174@st.hcmute.edu.vn is signed in". The command prompt output shows: <pre>26.1708333333333 1.02:10:45 27.0006844626968 Press any key to continue . . .</pre> </p>
Clip 192: Introduction to Multithreading	<ul style="list-style-type: none"> - Single thread : is a signed sequential flow of control within a program - Multithreading : is a type of execution model that allows multiple threads to exist within the process and they execute independently but share their process resources.
Clip 193: Creating Threads	 <p>The screenshot shows a Windows command prompt window titled "C:\windows\system32\cmd.exe". A notification bubble at the top says "20110174@st.hcmute.edu.vn is signed in". The command prompt output shows: <pre>Starting to execute Thread Number 1 (English) 0 Hi... 1 Hi... 2 Hi... 3 Hi... 4 Hi... 5 Hi... 6 Hi... 7 Hi... 8 Hi... 9 Hi... 10 Hi... 11 Hi... 12 Hi... 13 Hi... 14 Hi... 15 Hi... 16 Hi... 17 Hi... 18 Hi... 19 Hi... 20 Hi... 21 Hi... 22 Hi... 23 Hi... 24 Hi... 25 Hi... 26 Hi... 27 Hi... 28 Hi...</pre> </p>

Clip 194: Managing Threads



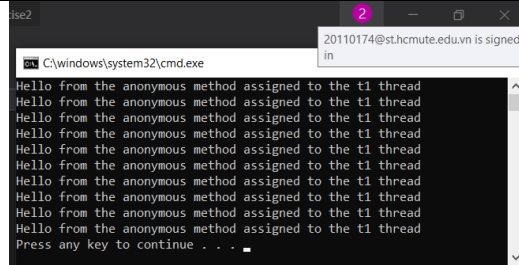
```
C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed in
Starting to execute Thread Number 2 (Spanish)
0 Hola...
1 Hola...
2 Hola...
3 Hola...
4 Hola...
5 Hola...
6 Hola...
7 Hola...
8 Hola...
9 Hola...
10 Hola...
11 Hola...
12 Hola...
13 Hola...
14 Hola...
15 Hola...
16 Hola...
17 Hola...
18 Hola...
19 Hola...
20 Hola...
21 Hola...
22 Hola...
23 Hola...
24 Hola...
25 Hola...
26 Hola...
27 Hola...
28 Hola...
```

Clip 195: Thread Exercise 1



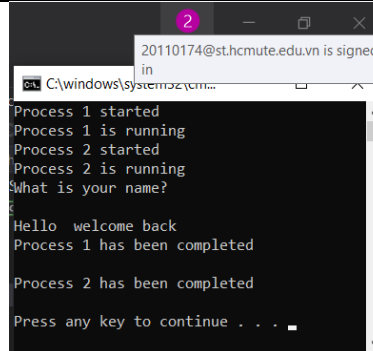
```
C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed in
Hello from lambda expression
Press any key to continue . . .
```

Clip 196: Thread Exercise 2



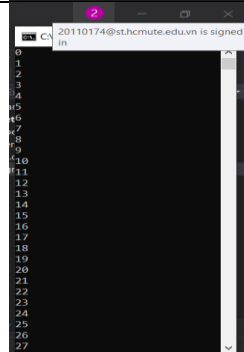
```
C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed in
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Hello from the anonymous method assigned to the t1 thread
Press any key to continue . . .
```

Clip 198: Multithreaded Applications



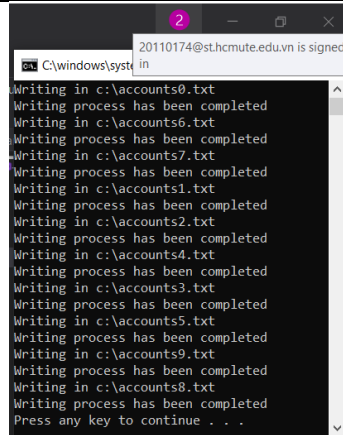
```
C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed in
Process 1 started
Process 1 is running
Process 2 started
Process 2 is running
What is your name?
Hello welcome back
Process 1 has been completed
Process 2 has been completed
Press any key to continue . . .
```

Clip 199: Parameterize ThreadStart



```
C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed in
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
```

Clip 200: Deadlocks and Lock Keyword



```
C:\windows\system32\cmd.exe
20110174@st.hcmute.edu.vn is signed in
C:\windows\system32\cmd.exe
Writing in c:\accounts0.txt
Writing process has been completed
Writing in c:\accounts6.txt
Writing process has been completed
Writing in c:\accounts7.txt
Writing process has been completed
Writing in c:\accounts1.txt
Writing process has been completed
Writing in c:\accounts2.txt
Writing process has been completed
Writing in c:\accounts4.txt
Writing process has been completed
Writing in c:\accounts3.txt
Writing process has been completed
Writing in c:\accounts5.txt
Writing process has been completed
Writing in c:\accounts9.txt
Writing process has been completed
Writing in c:\accounts8.txt
Writing process has been completed
Press any key to continue . . .
```