# Homework #1 - Simple Robot Controller

Robots are widely used nowadays. You are working at a robot-producing company, and your boss ask you to design a robot controller which can simply move a robot in a range-limited two dimension plane. The controller should be given some initial information such as the start location of the robot and how many moving operations you will give. After it is initialed, it starts to receive moving operations, once it gets an operation, it moves the robot and output the moving location. After all the operations are completed, it should output the moving path of the robot.

## Input Format

There are three lines begin at the input. Each of the first two lines contains a **signed** integer, **x0** and **y0**(-10000 <= **x0**, **y0** <= 10000), which means the start location of the robot in x-axis and y-axis, respectively. The third line contains an unsigned integer **n**(1<=**n**<=20), means how many moving operations you will give to the controller. The following 2**n** lines are moving distance of x-axis and y-axis, every two lines is a pair, containing two **signed** integers **dxi** and **dyi**(-10000 <= **dxi**, **dyi** <= 10000).

## Output Format

After inputting the first three lines, output the start location of the robot with the format as follows:

"The robot starts at (x, y)."

Then for each inputting two lines(means an moving operation), compute the location of the robot after moving, and output it with the format as follows:

"The robot is now at (x, y)."

When moving operations are all completed, output the moving path of the robot with the format as follows:

"The moving path of the robot: (x0, y0) -> (x1, y1) -> ... -> (xn, yn)."

You can assume there are no operations moving the robot out of range, while the range of the two dimension plane is -10000 to 10000 for both the x-axis and the y-axis.

## Sample I/O

1 // Input, the starts location of the robot in x-axis.
2 // Input, the starts location of the robot in y-axis.
3 // Input, there are **3** operations below.
**The robot starts at (+1, +2).** // Your output, the start location of the robot.
3 // Input, the moving distance in x-axis of the first operation.
7 // Input, the moving distance in y-axis of the first operation.
**The robot is now at (+4, +9).**
// Your output, the location of the robot after the first operation.
-8 // Input, the moving distance in x-axis of the second operation.
2 // Input, the moving distance in y-axis of the second operation.
**The robot is now at (-4, +11).**
// Your output, the location of the robot after the second operation.
3 // Input, the moving distance in x-axis of the third operation.
-9 // Input, the moving distance in y-axis of the third operation.
**The robot is now at (-1, +2).**
// Your output, the location of the robot after the third operation.
**The moving path of the robot: (+1, +2) -> (+4, +9) -> (-4, +11) -> (-1, +2) .**
// Your output, show the moving path of the robot step by step with the moving operations.

## Requirements

1. You need to comment your source code.
2. Write a report no more than one page to share how you have done your homework and problems you experienced.
3. Upload your source code(.asm file) and report (in .doc or .pdf format) to the E3 platform.
4. The deadline is 2011/3/25(Fri.) 23:59:59, you can have late homework before 2011/3/29(Tues.) 23:59:59 with 15% discount per day, after that you will only get **ZERO**.
5. Please **DO NOT** take a copy from others, or you will only get **ZERO**.

## Procedures You May Need

ReadInt – read a decimal signed integer to EAX

ReadDec – read a decimal unsigned integer to EAX

WriteInt – output the value of EAX in decimal to the console

WriteString – output the string starts from the address of EDX to console

Crlf – get a new line

For the usage of these procedures above, please refer to chapter 5 in the textbook.