Instruction to run the project

Run the program. It starts with a welcome message and instructions.

```
Hello welcome to the robot moving demonstration program
Please initialize the position of the robot following instruction
PLACE 0,0,direction
```

PLACE x,y,direction
x: x is the horizontal where range from [0,4]. No negative or decimal number are allowed y: y is the vertical where range from [0,4]. No negative or decimal number are allowed direction: only allow 4 commands: NORTH, SOUTH, WEST, EAST (all type in uppercase)

After we initial the position of the robot. It places at the coordinate (x,y) and heading to the direction that we choose. For example:

PLACE 0,0, NORTH

Then the robot place at bottom right corner Southwest and it's heading North.

MOVE: This command allows the robot to move 1 step forward the direction it's heading

LEFT: This command turns the robot 90 degree to the LEFT. If it's heading NORTH, then this command will change it direction to WEST

RIGHT: This command turns the robot 90 degree to the RIGHT. If it's heading NORTH, then this command will change it direction to EAST

REPORT: This command prints the current coordinate of the robot and its current direction.

EXIT: This command exits and terminate the program

Test the application

Scenario 1: Not type command PLACE first and type wrong command

MOVE

Please enter command PLACE first before executing others command

DFA

Please enter command PLACE first before executing others command

Terminal will send a message indicate that user needs to run command PLACE first before any others command

Scenario 2: Type PLACE command but wrong format

PLACE 2
Your command does not follow the correct format.
Please try again.

PLACE -3,0,NORTH
Your command does not follow the correct format.
Please try again.

PLACE 0,1.3,NORTH
Your command does not follow the correct format.
Please try again.

PLACE 0,1,NO
Your command does not follow the correct format.
Please try again.

Valid Command

PLACE 0,1,NORTH
Initialize the position of robot successful
The robot is at coordinate (0,1) heading NORTH

Scenario 3: PLACE robot successful but enter follow invalid command

```
MOVING
Only 5 commands PLACE, MOVE, LEFT, RIGHT, REPORT are allowing
DACING
Only 5 commands PLACE, MOVE, LEFT, RIGHT, REPORT are allowing
HI
Only 5 commands PLACE, MOVE, LEFT, RIGHT, REPORT are allowing
```

Valid Command

```
MOVE
The robot moves 1 step to the NORTH
LEFT
The robot turns left now it's heading WEST
```

Scenario 4: Robot go out of dimension

```
PLACE 0,0,NORTH
Initialize the position of robot successful
The robot is at coordinate (0,0) heading NORTH
LEFT
The robot turn left now it's heading WEST
MOVE
The robot cannot go out the dimension
```

Scenario 5: User want to stop the program

```
PLACE 4,4,SOUTH
Initialize the position of robot successful
The robot is at coordinate (4,4) heading SOUTH
MOVE
The robot moves 1 step to the SOUTH
REPORT
4,3,SOUTH
EXIT
The program is exiting !!!
```

Scenario 6: All correct

```
PLACE 0,0,NORTH
Initialize  the position of robot successful
The robot is at coordinate (0,0) heading NORTH
RIGHT
The robot turns right now it's heading EAST
MOVE
The robot moves 1 step to the EAST
MOVE
The robot moves 1 step to the EAST
LEFT
The robot turns left now it's heading NORTH
MOVE
The robot moves 1 step to the NORTH
MOVE
The robot moves 1 step to the NORTH
REPORT
2,2,NORTH
```