

## Our Player name and their corresponding character in graph

Goose	G
GRT Bus	B
Tim Hortons Doughnut	D
Professor	P
Student	S
Money	\$
Laptop	L
Pink tie	T

To operate the code, there are two kinds of commands -load <file> and -testing. (order does not matter, but -load should followed by a file)

```
h48yin@ubuntul804-008:~/cs246/1205/final$ ./watopoly -testing
h48yin@ubuntul804-008:~/cs246/1205/final$ ./watopoly -testing -load 100.txt
```

In testing mode, you can decide the value of two dices you rolled, in common mode, you can only roll randomly. If you load a file, then you need to give the file name, if the file does not exist then, it will return and produce error message.

```
h48yin@ubuntul804-008:~/cs246/1205/final$ ./watopoly -testing -load not_extits.txt
The wanted saving cannot be opened or do not exist
```

If there is no “-load” command argument, the program will start a new game.

Then before start game you need to give the number of player from 6 to 8. Or it will be invalid input.

```
h48yin@ubuntul804-008:~/cs246/1205/final$ ./watopoly -testing
New Field Generated
Please enter the Number of Players
10
Error: Invalid Input for Number of Players
The number of players should be 6 - 8
Please re-enter the Number of Players, q for quit
```

The format of the load file is like all txt in zip. The load files should be txt files. You can view 100.txt to see the example.

numPlayers (number of player)

player char TimsCups money position  
(player name, player char, number of it, number of Money, its position)

AL owner improvements  
(building name, owner name, improvement level int)

For the input, we used vague method, which means sometimes give the of the word and run the corresponding command.

For instance, 'rol' or 'r' will be identified as 'roll'; 'impo' can be identified as 'improve'.

After initial or load the game, the program starts the game. When playing the game there are many kinds of command as following.

PS: Very important to be careful when you meet Enter any command to continue as following.

In order for you to have time to read the commands and information in the game, you need to enter some command (anything you like) and hit "Enter" key after one command is executed. (Do this when the program will inform you "Enter any command to continue") (Any letter works here)

```
Enter any command to continue  
q
```

#### 1. "roll" or "Roll"

if the it is not testing mode, it will roll two dices randomly. Like following

```
Player: Goose  
Cash: 1500      Item: 0  
Now at: DCTims  
Buildings:  
What do you want to do?  
r  
You rolled 3 and 5  
You came to BMH
```

In the testing mode, we need to give two integers. Like following

```

Player: Goose
Cash: 1500      Item: 0
Now at: DCTims
Buildings:
What do you want to do?
r
Please enter the value of your first dice
5
Please enter the value of your second dice
0
You came to UWP

```

Then if you meet a property-building, if it do not have owner, it will ask you buy or not.

Input 'yes' or 'Yes', for buying.

```

You came to UWP
Do you want to buy this building? Enter Yes / No
yes
Now UWP is now yours!
Enter any command to continue

```

Input 'No' or 'no', for not buying.

```

You came to UWP
Do you want to buy this building? Enter Yes / No
no
You walked passed the building, and nothing happened
Enter any command to continue

```

There is a special case for roll, when you are at DCTims.

Your roll command will not act like common, instead it will inform you that you need to choose between “pay” (paying \$50), “roll”(if you rolled a double) to set yourself free.

```

Player: GRT Bus
Cash: 1500      Item: 0
Now at: DCTims
Buildings:
What do you want to do?
r
Since you are buying coffee, you cannot roll for steps!
Roll or pay?
Enter "Roll" for roll, and "Pay" for pay

```

If you choose “pay”, you can pay \$50 and set yourself free, if you choose “roll”, you will be free only if you rolled a double. If you are free, you will be kicked out of DCTims and comes to the next grid;

2. “trade” or “Trade” + **character that represents the people** + things you offer + things you want (there is a little change for the input we need to give **character** for people, there is no “+” signs when you enter)

Notice that the character for Money is \$;

Then, you are trading with the people you want to trade, an incorrect people

character or things name will cause the failure of the trade.  
Here are three opinions

1. Building name and money

```
What do you want to do?  
trade B UWP 500  
Does GRT Bus agree?  
Please enter "Yes" for agree, otherwise to reject  
█
```

2. Building name and Building name

```
What do you want to do?  
trade B UWP ECH  
Does GRT Bus agree?  
Please enter "Yes" for agree, otherwise to reject  
█
```

3. Money and Building name

```
What do you want to do?  
trade B 500 ECH  
Does GRT Bus agree?  
Please enter "Yes" for agree, otherwise to reject  
█
```

Then the people who you want to trade with will decide to accept or not. Notice that, In this case, valid input for agree is only 'Yes' since trade is an important thing and we want to ensure there is no miss operation.

```
Please enter "Yes" for agree, otherwise to reject  
no  
GRT Bus rejected the trade  
Enter any command to continue
```

```
Does GRT Bus agree?  
Please enter "Yes" for agree, otherwise to reject  
Yes  
Enter any command to continue  
█
```

If you do not have enough money or building, the given output following

```
What do you want to do?  
trade B HH ECH  
Goose does not own building HH and you cannot trade it!  
Enter any command to continue  
█
```

```
What do you want to do?  
trade B 50000 ECH  
You do not have enough money for the trade  
Enter any command to continue  
█
```

You also cannot trade buildings have been mortgaged or still have improvements.

3. "improve" or "Improve" + the building you want to improve + buy(buy improvements)/sell(sell improvements) (there is no "+" signs when you

enter)

Then you can buy or sell improvements in the building

```
What do you want to do?
improve AL buy
AL improved
Enter any command to continue
```

```
What do you want to do?
improve AL sell
AL's improvement sold
Enter any command to continue
```

Pay attention, due to the rule, you must follow these rules when buying or selling the improvements:

You cannot buy improvements for buildings which are not yours, buildings has been mortgaged or building have already had 5 improvements. And you must buy all buildings in a same monopoly block before you buy improvements for one of those buildings.

```
-----
Player: Goose
Cash: 1360      Item: 0
Now at: RCH
Buildings: UWP RCH
What do you want to do?
improve RCH buy
You need to own all buildings in a block to buy improvements for them!
Enter any command to continue
```

You cannot sell improvements for buildings which are not yours, or building have already had no improvement.

4. “mortgage” or “Mortgage” + the building you want to mortgage. (there is no “+” signs when you enter)

If the building is yours and are not mortgaged, then the building became mortgage, and you get money.

```
What do you want to do?
mortgage AL
Building AL mortgaged successfully, you got $20
Enter any command to continue
```

Otherwise, like there still improvement or not yours, given following outputs

```
What do you want to do?
mortgage AL
AL still has some improvements in it!
Enter any command to continue
```

```
What do you want to do?
m
PAS
You do not own building PAS and you cannot mortgage it!
Enter any command to continue
```

5. “unmortgage” or “Unmortgage” + the building you want to unmortgage. (there is no “+” signs when you enter)

Then you can unmortgage the building if you have enough money

```
What do you want to do?
unmortgaged AL
AL is now unmortgaged!
Enter any command to continue
```

And if you do not have enough money, the unmortgage automatically fail

6. “save” or “Save” + the name of your saving (there is no “+” signs when you enter)

Then you can save game in the name.txt which name is the input you give

```
What do you want to do?
save mysave
Game saved in mysave.txt
Enter any command to continue
```

7. “all” or “All”

To see the properties of all players

```
What do you want to do?
all
-----
Player: Goose
Cash: 1350      Item: 0
Now at: PAC
Buildings: UWP  PAC
-----
Player: GRT Bus
Cash: 1450      Item: 1
Now at: DCTims
Buildings: AL   ML   ECH
-----
Enter any command to continue
```

8. “assert” or “Assert”

To see all your own properties (although for your convenience, we automatically call this command when your turn is started, you can still use this command if you wish)

```
What do you want to do?
assert
-----
Player: GRT Bus
Cash: 1450      Item: 1
Now at: DCTims
Buildings: AL   ML   ECH
-----
Enter any command to continue
```

9. “q” or “Q”, quit game

```
What do you want to do?
q
Game quitted!
Game ended
```

Notice that when people do not have enough money for paying, they will be asked to mortgage, sell improvement or bankrupt.

```

enter "bankrupt" if you want to bankrupt and quit the game,
enter "mortgage building_name" if you want to mortgage a building
enter "improve building_name" if you want to sell a improvement in a building
Here is your situaion:
-----
Player: Goose
Cash: -14      Item: 0
Now at: B1
Buildings: UWP

```

Follow by those hint, give input.

The display for whole game board

*There are some grids at here, but not enough space.*

```

ubuntu1804@student.cs.uwaterloo.ca - Pull Y
|0-----|-----|-----|-----|-----|-----|-----|-----|0
|OFT-----|-----|-----|-----|-----|-----|-----|EIT
|0-----|-----|-----|-----|-----|-----|-----|0
|BMH-----|-----|-----|-----|-----|-----|-----|ESC
|SLC-----|-----|-----|-----|-----|-----|-----|SLC
|0-----|-----|-----|-----|-----|-----|-----|0
|LHI-----|-----|-----|-----|-----|-----|-----|C2
|UWP-----|-----|-----|-----|-----|-----|-----|REV
|0-----|-----|-----|-----|-----|-----|-----|NEEDLES
|CPH-----|-----|-----|-----|-----|-----|-----|HALL
|0-----|-----|-----|-----|-----|-----|-----|0
|DWE-----|-----|-----|-----|-----|-----|-----|MC
|PAC-----|-----|-----|-----|-----|-----|-----|COOP
|0-----|-----|-----|-----|-----|-----|-----|FEE
|RCH-----|-----|-----|-----|-----|-----|-----|0
|DC Tims|0|0|NEEDLES|0|MKV|TUITION|0|SLC|0|COLLECT|
|Line|HH|PAS|HALL|ECH|ML|AL|GBDPS$|
|

```

*← improvement.*

*← player  
char.*