

Kaip patobulinti savo fighterj?

Kaip galiu panaudoti tai, ką moku?

Kaip veikia Boxeris ir Kickboxeris?

SimpleBot

```
public Move MakeNextMove(Move opponentLastMove, int myLastScore, int oppLastScore)
{
    var move = new Move()
        .AddAttack(Area.Nose)
        .AddAttack(Area.Nose)
        .AddDefence(Area.Nose);
    return move;
}
```

I

MyFighter

```
public Move MakeNextMove(Move opponentLastMove, int myLastScore, int oppLastScore)
{
    var move = new Move()
        .AddAttack(Area.Jaw)
        .AddAttack(Area.Jaw)
        .AddDefence(Area.Nose);

    return move;
}
```

Strategija laimi prieš vieną botą, bet neturi visiškai jokių šansų prieš kitus botus

Ko mums reikia, norint laimėti prieš kitus robotus?

- Fantazijos
- Sėkmės
- Geros strategijos
- „Kvailų“ priešininkų
- Išbandyti idėjas
- Adaptuotis
- ???

Roboto „griaučiai“

```
public Move MakeNextMove(Move opponentsLastMove, int myLastScore, int opponentsLastScore)
{
    var move = new Move();
    if (opponentsLastMove != null)
    {
        // ???
    }
    else
    {
        move
            .AddAttack(Area.Jaw)
            .AddAttack(Area.Jaw)
            .AddDefence(Area.Nose);
    }
    return move;
}
```

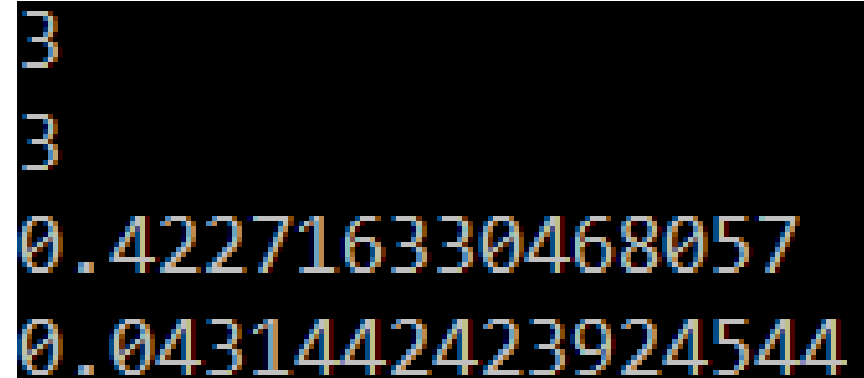
The diagram consists of three light gray rounded rectangular boxes with callout lines pointing to specific parts of the code:

- The first box, containing the text "1-o ėjimo metu šis objektas bus null", has a callout line pointing to the condition `opponentsLastMove != null` in the `if` statement.
- The second box, containing the text "Pagrindinė logika", has a callout line pointing to the `// ???` comment inside the `if` block.
- The third box, containing the text "1-o ėjimo arba numatytoji reikšmė", has a callout line pointing to the `.AddAttack(Area.Jaw)` line in the `else` block.

Random skaičiai

1 reference

```
public static void GenerateRandomNumber()  
{  
    Random r = new Random();  
  
    //grąžina skaičių iš intervalo [1, 5] imtinai  
    Console.WriteLine(r.Next(1, 5));  
    Console.WriteLine(r.Next(1, 5));  
  
    //grąžina skaičių iš intervalo [0.0, 1.0] imtinai  
    Console.WriteLine(r.NextDouble());  
    Console.WriteLine(r.NextDouble());  
}
```



3
3
0.422716330468057
0.0431442423924544

Daugiau:

<https://www.dotnetperls.com/random>

Kaip naudoja sample botai?

Boxer.cs

1 reference

```
private Area createRandomAttack()  
{  
    return new Random().NextDouble() > 0.5d ? Area.Belly : Area.Jaw;  
}
```

Daugiau:

<https://www.dotnetperls.com/ternary>

Kickboxer.cs

2 references

```
private Area CreateRandomArea()
{
    double random = new Random().NextDouble();
    if (random < 0.3)
        return Area.Nose;

    if (random < 0.7)
        return Area.Jaw;

    if (random < 0.9)
        return Area.Groin; // oh yeah

    return Area.Belly;
}
```


Kintamųjų galiojimo sritis (variable scope)

1 reference

```
class Boxer: IFighter
```

```
{
```

```
    private int myScoreTotal = 0;
```

```
    private int opponentScoreTotal = 0;
```

7 references

```
    public Move MakeNextMove(Move opponentLastMove, int myLastScore, int oppLastScore)
```

```
{
```

```
        myScoreTotal += myLastScore;
```

```
        opponentScoreTotal += oppLastScore;
```

7 references

```
public Move MakeNextMove(Move opponentLastMove, int myLastScore, int oppLastScore)
```

```
{
```

```
    int myScoreTotal = 0;
```

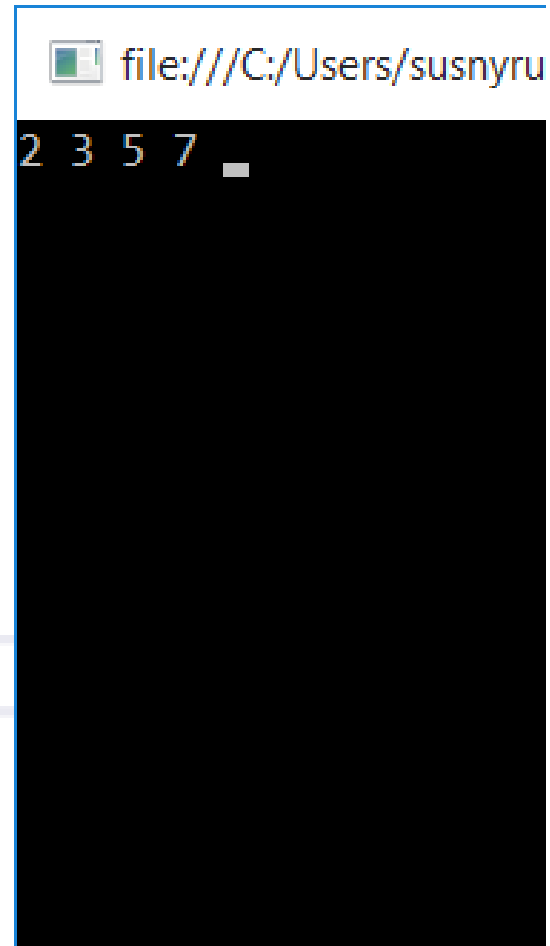
```
    int opponentScoreTotal = 0;
```

```
    myScoreTotal += myLastScore;
```

```
    opponentScoreTotal += oppLastScore;
```

List<kažkos> kintamojo tipas

```
List<int> list = new List<int>();  
list.Add(2);  
list.Add(3);  
list.Add(5);  
list.Add(7);  
  
for (int i = 0; i < list.Count; i++)  
{  
    Console.Write(list[i] + " ");  
}  
  
Console.ReadLine();
```

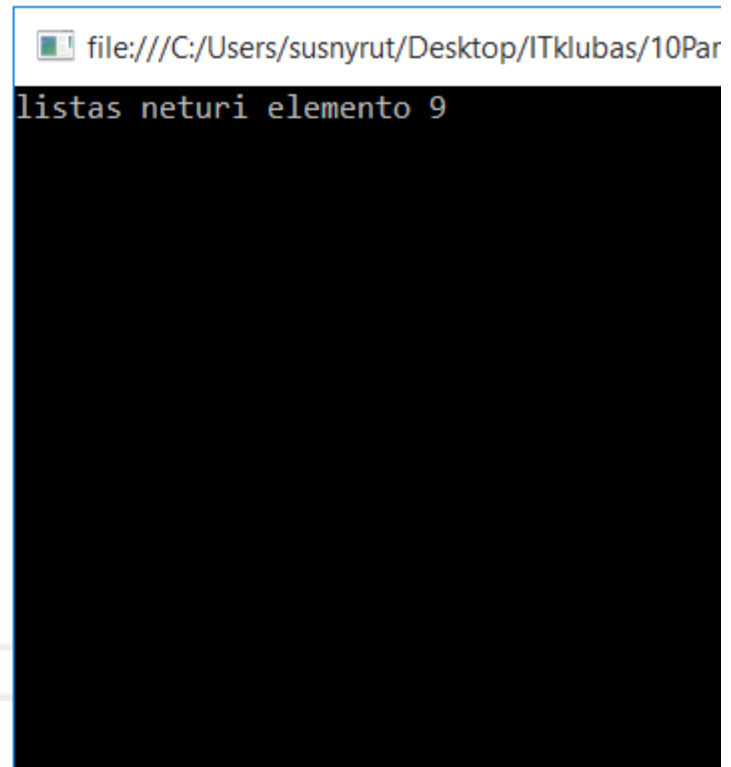


The screenshot shows a console window with the file path `file:///C:/Users/susnyru` at the top. The output of the program is displayed on the first line: `2 3 5 7`, followed by a cursor on the next line.

Kaip patikrinti, ar List'as turi mano elementą?

Daugiau: <https://www.dotnetperls.com/list>

```
List<int> list = new List<int>();  
list.Add(2);  
list.Add(3);  
list.Add(5);  
list.Add(7);  
  
if (list.Contains(9))  
{  
    Console.WriteLine("listas turi elementą 9");  
}  
else  
{  
    Console.WriteLine("listas neturi elemento 9");  
}
```



file:///C:/Users/susnyrut/Desktop/ITklubas/10Par

```
listas neturi elemento 9
```

Kaip kaupiti prieš juodesius?

7 references

```
public Move MakeNextMove(Move opponentsLastMove, int myLastScore, int opponentsLastScore)
{
    List<Move> opponentsMoves = new List<Move>();

    if (opponentsLastMove != null)
    {
        opponentsMoves.Add(opponentsLastMove);
    }
}
```

Ar veiks 😊 ?

Pataisytas pavyzdys – opponentsMoves negali būti metodo viduje, nes kas kartą kviečiant metodą būtų sukuriamas iš naujo.

```
List<Move> opponentsMoves = new List<Move>();
```

7 references

```
public Move MakeNextMove(Move opponentsLastMove, int myLastScore, int oppon  
{  
    if (opponentsLastMove != null)  
    {  
        opponentsMoves.Add(opponentsLastMove);  
    }
```

Kaip iteruoti per sukauptus priešininko judesius?

```
for(var i = 0; i < opponentsMoves.Count; i++)  
{  
    for(var j = 0; j < opponentsMoves[i].Attacks.Count; j++)  
    {  
        if (opponentsMoves[i].Attacks[j] == Area.Jaw)  
        {  
            // ...  
        }  
    }  
}
```

```
foreach(Move move in opponentsMoves)  
{  
    foreach(Area attackArea in move.Attacks)  
    {  
        if (attackArea == Area.Jaw)  
        {  
            // ...  
        }  
    }  
}
```

Ar veikia tokia taktika?

Jeigu priešas 5 kartus iš 10 man smūgiavo į kojas,
tuomet aš turėčiau dengti kojas

??? Sugalvok pavyzdį, kada tokia taktika neveiks

Nose = 10,

Jaw = 8,

Belly = 6,

Groin = 4,

Legs = 3

Jeigu pirmus 5 kartus man priešininkas smūgiavo į kojas, o likusius 4 – į nosį ir aš dengsiu tik kojas, tai neprarasiu $5 \cdot 3$ taškų už kojas, bet prarasiu $4 \cdot 10$ taškų už nosį

Kaip sekėsi mano fighteriui kovoti su Boxer?

Strategija:

1. Gink vieną labiausiai priešininko atakuotą per praėjusius roundus Area
2. Atakuok dvi mažiausiai priešininko gintas per praėjusius roundus Areas

```
Your bot attacked BELLY(+), JAW(+), scoring 14 while defending JAW,  
Boxer attacked NOSE(+), JAW(-), scoring 10 while defending NOSE,  
Your bot vs Boxer: 24 to -12
```

```
Boxer attacked NOSE(+), JAW(-), BELLY(+), scoring 16 and was NOT defending at all.  
Your bot vs Boxer: 2 to 16
```

```
Your bot attacked BELLY(+), JAW(+), scoring 14 while defending JAW,  
Boxer attacked NOSE(+), JAW(-), BELLY(+), scoring 16 and was NOT defending at all.  
Your bot vs Boxer: -14 to 2
```

Kaip Boxer kaupia priešininko ir mano taškus?

```
private int myScoreTotal = 0;  
private int opponentScoreTotal = 0;
```

7 references

```
public Move MakeNextMove(Move opponentLastMove, int myLastScore, int oppLastScore)  
{  
    myScoreTotal += myLastScore;  
    opponentScoreTotal += oppLastScore;  
  
    Move move= new Move()  
                I      .AddAttack(attack1)  
                    .AddAttack(attack2);  
  
    if (myScoreTotal >= opponentScoreTotal)  
        move.AddAttack(createRandomAttack()); // 3 attacks, 0 defence  
    else  
        move.AddDefence(defence);              // 2 attacks, 1 defence
```

Užduotis

- Patobulinti savo botą
 - Naujas botas treniruotėms
 - Reikia atsinaujinti repozitoriją
- Užsiregistruoti į turnyrą

Ką veikti namuose?

https://www.codewars.com

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i The code does not execute properly. Try to figure out why.

```
public class CustomMath {  
    public static int multiply(int a, string b) {  
        return a * b;  
    }  
}
```

SUBMIT

<https://www.codehunt.com/>

LEVEL: 00.02 ▶ ATTEMPTS: 1 RATING: SCORE: 0

CODE HUNT

SIGN IN WITH

Discover the arithmetic operation applied to 'x'.

CAPTURE CODE

RESET LEVEL

C#

```
1 using System;
2 public class Program {
3     public static int Puzzle(int x) {
4         return 0;
5     }
6 }
```

X	EXPECTED RESULT	YOUR RESULT	DESCRIPTION	
×	0	1	0Mismatch	
✓	-1	0	0	
@	Well done so far. Look at numbers on line 4 to capture the code.			

FEEDBACK


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
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Hangman Game

★★★★★



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A Hangman game as a console application

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Bubble.NET Game

★★★★★



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A Puzzle Bobble (aka Bust-A-Move) clone for Pocket PC using the .NET compact framework

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☐ VS.NET2003 ☐ C# ☐ Windows ☐ .NETCF ☐ .NET ☐ Visual-Studio

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For	Foreach	Format	IEnumerable	If	IndexOf	Lambda	LINQ	Optimization
Parse	Path	Process	Property	Random	Regex	Replace	Sort	Split
Static	Substring	Switch	Tuple	While				

C#. Water travels down the rock. It settles below in a clear pool. This is the waterfall of knowledge. The pool beneath is clear and deep.

C#

ASP.NET

F#

Go

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Perl

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Scala

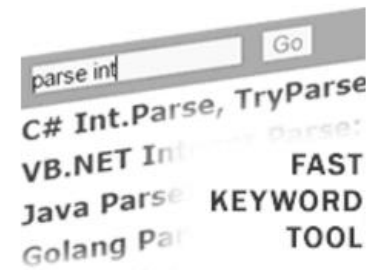
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