Evolutionary Algorithm

Project: Sport Tournament Scheduling

GUI Screenshot

By ElZowzat

Deploy

GA Settings 🤖

Tournament Days

30

1   90

Match Duration

2   −   +

Venue Maintenance

1   −   +

Max Matches/Day

4   −   +

Number Of Teams

10   −   +

Number Of Venues

3   −   +

Random Seed

42   −   +

Initialization Approach

Greedy   ⌄

Welcome To El Zowzat's Tournament Scheduler 👾

✅ Best fitness found in Generation 192

🖥 Schedule   📊 Graphs   🧐 Compare between Results

🧐 Compare Results

Select first run

Random - Roulette Wheel   ⌄

Select second run

Random   ⌄

Compare selected Runs

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GA Settings 🤖

Tournament Days

30

1   90

Match Duration

2   −   +

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Max Matches/Day

4   −   +

Number Of Teams

10   −   +

Number Of Venues

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Random Seed

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Initialization Approach

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🧐 Compare Results

Select first run

Random - Roulette Wheel   ⌄

Select second run

Random   ⌄

Compare selected Runs

Side-by-Side Comparison

Configuration

```
▾ {
    "Tournament Days" : 30
    "Number of teams" : 10
    "Number of venues" : 3
    "Initialization Approach" : "random"
    "Selection Method" : "roulette-wheel"
    "Crossover Method" : "uniform"
    "Mutation Method" : "reschedule"
    "Survivor Method" : "steady-state"
    "Random Seed" : 42
    "Max number of matches per day" : 4
    "Venue Rest Period" : 1
    "Match Duration" : 2
}
```

```
▾ {
    "Tournament Days" : 30
    "Number of teams" : 10
    "Number of venues" : 3
    "Initialization Approach" : "random"
    "Selection Method" : "tournament"
    "Crossover Method" : "uniform"
    "Mutation Method" : "reschedule"
    "Survivor Method" : "steady-state"
    "Random Seed" : 42
    "Max number of matches per day" : 4
    "Venue Rest Period" : 1
    "Match Duration" : 2
}
```

Schedules

Run 1   Run 2

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}   }

Schedules

Run 1

	Team 1	Team 2	Venue	Day	Hour
0	RB Leipzig	Valencia CF	Estadi Mallorca Son Moix	1	13
1	Olympiacos FC	Lazio SS	Estadi Mallorca Son Moix	1	15
2	Olympiacos FC	Valencia CF	Red Bull Arena	3	21
3	Real Madrid CF	FC Spartak Moscow	Estadio do Dragão	4	20
4	Besiktas JK	Arsenal FC	Estadio do Dragão	5	9
5	Arsenal FC	Inter Milan	Estadi Mallorca Son Moix	7	10
6	Inter Milan	Juventus Turin	Estadio do Dragão	8	16
7	Arsenal FC	RB Leipzig	Red Bull Arena	9	16
8	Olympiacos FC	RB Leipzig	Estadio do Dragão	10	15
9	Real Madrid CF	Juventus Turin	Red Bull Arena	10	15
10	Besiktas JK	Inter Milan	Estadi Mallorca Son Moix	10	21
11	FC Spartak Moscow	RB Leipzig	Estadi Mallorca Son Moix	11	10
12	Lazio SS	Juventus Turin	Red Bull Arena	11	11
13	Besiktas JK	Real Madrid CF	Estadio do Dragão	12	20
14	Arsenal FC	Valencia CF	Red Bull Arena	13	19
15	Olympiacos FC	Inter Milan	Estadio do Dragão	14	13
16	Real Madrid CF	RB Leipzig	Estadio do Dragão	14	17
17	Juventus Turin	Valencia CF	Estadio do Dragão	15	13

Run 2

	Team 1	Team 2	Venue	Day	Hour
0	Besiktas JK	Lazio SS	Red Bull Arena	1	11
1	Real Madrid CF	Valencia CF	Estadio do Dragão	1	15
2	Olympiacos FC	FC Spartak Moscow	Estadi Mallorca Son Moix	2	9
3	Inter Milan	Juventus Turin	Estadio do Dragão	2	19
4	Arsenal FC	RB Leipzig	Red Bull Arena	3	10
5	Besiktas JK	Real Madrid CF	Estadio do Dragão	3	19
6	Olympiacos FC	Juventus Turin	Estadi Mallorca Son Moix	4	13
7	Inter Milan	FC Spartak Moscow	Red Bull Arena	4	13
8	Lazio SS	Inter Milan	Red Bull Arena	6	13
9	Arsenal FC	Real Madrid CF	Estadi Mallorca Son Moix	6	20
10	FC Spartak Moscow	Valencia CF	Red Bull Arena	7	15
11	Olympiacos FC	RB Leipzig	Estadi Mallorca Son Moix	7	19
12	Lazio SS	FC Spartak Moscow	Red Bull Arena	9	9
13	Arsenal FC	Juventus Turin	Estadi Mallorca Son Moix	9	18
14	Besiktas JK	Valencia CF	Estadi Mallorca Son Moix	10	21
15	FC Spartak Moscow	RB Leipzig	Red Bull Arena	11	14
16	Lazio SS	Real Madrid CF	Red Bull Arena	11	18
17	Besiktas JK	Inter Milan	Red Bull Arena	12	12

GA Settings 🎛️

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1 — 90

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2 − +

Venue Maintenance
1 − +

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Random Seed
42 − +

Initialization Approach
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42	Olympiacos FC	Juventus Turin	Red Bull Arena	30	9
43	FC Spartak Moscow	RB Leipzig	Estadi Mallorca Son Moix	30	9
44	Lazio SS	Inter Milan	Estadio do Dragão	30	10

42	Arsenal FC	FC Spartak Moscow	Red Bull Arena	29	17
43	Besiktas JK	RB Leipzig	Estadio do Dragão	30	10
44	Olympiacos FC	Valencia CF	Estadi Mallorca Son Moix	30	15

Run 1 Fitness Evolution — Fitness — Best Generation: 78 (Fitness: 150.91)

Run 2 Fitness Evolution — Fitness — Best Generation: 125 (Fitness: 0.22)

Clear Comparison

GA Settings 🎛️

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1 — 90

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Initialization Approach
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