Python 3.6.3 |Anaconda, Inc.| (default, Oct 13 2017, 12:02:49)

[GCC 7.2.0] on linux

Type "copyright", "credits" or "license()" for more information.

>>>

===== RESTART: /home/cserv1\_a/soc\_msc/ml16m6y/Downloads/schooling\_S3.py =====

Testing average cycles for attraction strength 1.2

Number of cycles run: 4849

Number of cycles run: 6737

Number of cycles run: 50000

Number of cycles run: 1000

Number of cycles run: 2844

Number of cycles run: 3446

Number of cycles run: 961

Number of cycles run: 456

Number of cycles run: 3561

Number of cycles run: 2369

Number of cycles run: 12384

Number of cycles run: 3301

Number of cycles run: 1555

Number of cycles run: 1652

Number of cycles run: 1953

Number of cycles run: 2210

Number of cycles run: 2189

Number of cycles run: 2960

Number of cycles run: 1842

Number of cycles run: 1876

Number of cycles run: 468

Number of cycles run: 1651

Number of cycles run: 571

Number of cycles run: 14665

Number of cycles run: 15333

Number of cycles run: 3097

Number of cycles run: 1170

Number of cycles run: 2042

Number of cycles run: 3468

Number of cycles run: 2849

Number of cycles run: 709

Number of cycles run: 1163

Number of cycles run: 1909

Number of cycles run: 4966

Number of cycles run: 1333

Number of cycles run: 2205

Number of cycles run: 10955

Number of cycles run: 2187

Number of cycles run: 7496

Number of cycles run: 6946

Number of cycles run: 725

Number of cycles run: 7951

Number of cycles run: 1407

Number of cycles run: 745

Number of cycles run: 3611

Number of cycles run: 1539

Number of cycles run: 10666

Number of cycles run: 3727

Number of cycles run: 2285

Number of cycles run: 3811

Number of cycles run: 1127

Number of cycles run: 2859

Number of cycles run: 1079

Number of cycles run: 2187

Number of cycles run: 43592

Number of cycles run: 3747

Number of cycles run: 1277

Number of cycles run: 6597

Number of cycles run: 1838

Number of cycles run: 1776

Number of cycles run: 3486

Number of cycles run: 6793

Number of cycles run: 50000

Number of cycles run: 646

Number of cycles run: 12932

Number of cycles run: 2865

Number of cycles run: 1713

Number of cycles run: 3451

Number of cycles run: 6202

Number of cycles run: 2481

Number of cycles run: 12235

Number of cycles run: 678

Number of cycles run: 13038

Number of cycles run: 2333

Number of cycles run: 1318

Number of cycles run: 12802

Number of cycles run: 2376

Number of cycles run: 6071

Number of cycles run: 2971

Number of cycles run: 4357

Number of cycles run: 614

Number of cycles run: 2653

Number of cycles run: 1503

Number of cycles run: 11400

Number of cycles run: 7553

Number of cycles run: 1237

Number of cycles run: 4160

Number of cycles run: 3480

Number of cycles run: 2974

Number of cycles run: 3014

Number of cycles run: 1207

Number of cycles run: 2729

Number of cycles run: 1149

Number of cycles run: 1908

Number of cycles run: 3946

Number of cycles run: 4590

Number of cycles run: 38672

Number of cycles run: 1361

Number of cycles run: 2009

Number of cycles run: 467

Av cycles for attraction strength 1.2 is 5412

standard diviation is 8987.314125

Testing average cycles for attraction strength 1.2

Number of cycles run: 3308

Number of cycles run: 4568

Number of cycles run: 469

Number of cycles run: 3977

Number of cycles run: 5180

Number of cycles run: 1190

Number of cycles run: 5511

Number of cycles run: 9315

Number of cycles run: 10997

Number of cycles run: 2391

Number of cycles run: 6007

Number of cycles run: 1375

Number of cycles run: 2371

Number of cycles run: 4357

Number of cycles run: 50000

Number of cycles run: 6532

Number of cycles run: 1735

Number of cycles run: 4189

Number of cycles run: 15262

Number of cycles run: 1502

Number of cycles run: 13212

Number of cycles run: 35287

Number of cycles run: 50000

Number of cycles run: 7215

Number of cycles run: 2947

Number of cycles run: 1884

Number of cycles run: 1420

Number of cycles run: 1114

Number of cycles run: 2891

Number of cycles run: 1898

Number of cycles run: 1274

Number of cycles run: 3051

Number of cycles run: 1488

Number of cycles run: 922

Number of cycles run: 861

Number of cycles run: 4174

Number of cycles run: 821

Number of cycles run: 1070

Number of cycles run: 21111

Number of cycles run: 11157

Number of cycles run: 3305

Number of cycles run: 1528

Number of cycles run: 2133

Number of cycles run: 1148

Number of cycles run: 1927

Number of cycles run: 791

Number of cycles run: 1828

Number of cycles run: 1598

Number of cycles run: 16165

Number of cycles run: 2611

Number of cycles run: 1037

Number of cycles run: 1590

Number of cycles run: 2161

Number of cycles run: 6459

Number of cycles run: 470

Number of cycles run: 4967

Number of cycles run: 1961

Number of cycles run: 458

Number of cycles run: 3626

Number of cycles run: 3154

Number of cycles run: 1369

Number of cycles run: 3346

Number of cycles run: 1649

Number of cycles run: 2680

Number of cycles run: 3180

Number of cycles run: 3803

Number of cycles run: 533

Number of cycles run: 33131

Number of cycles run: 3045

Number of cycles run: 5413

Number of cycles run: 3386

Number of cycles run: 2738

Number of cycles run: 6618

Number of cycles run: 3459

Number of cycles run: 2582

Number of cycles run: 47079

Number of cycles run: 3465

Number of cycles run: 4261

Number of cycles run: 2179

Number of cycles run: 2369

Number of cycles run: 10139

Number of cycles run: 25356

Number of cycles run: 1340

Number of cycles run: 3167

Number of cycles run: 5305

Number of cycles run: 1780

Number of cycles run: 3665

Number of cycles run: 3263

Number of cycles run: 2665

Number of cycles run: 871

Number of cycles run: 1025

Number of cycles run: 2975

Number of cycles run: 4235

Number of cycles run: 1442

Number of cycles run: 11631

Number of cycles run: 4781

Number of cycles run: 3921

Number of cycles run: 4517

Number of cycles run: 1869

Number of cycles run: 5041

Av cycles for attraction strength 1.2 is 5982

standard diviation is 9640.51182247

Testing average cycles for attraction strength 1.2

Number of cycles run: 50000

Number of cycles run: 3557

Number of cycles run: 19146

Number of cycles run: 847

Number of cycles run: 2136

Number of cycles run: 2699

Number of cycles run: 2180

Number of cycles run: 4538

Number of cycles run: 1223

Number of cycles run: 440

Number of cycles run: 1386

Number of cycles run: 2603

Number of cycles run: 4986

Number of cycles run: 2131

Number of cycles run: 4250

Number of cycles run: 5556

Number of cycles run: 2555

Number of cycles run: 1511

Number of cycles run: 3853

Number of cycles run: 2126

Number of cycles run: 50000

Number of cycles run: 2137

Number of cycles run: 3143

Number of cycles run: 2567

Number of cycles run: 4842

Number of cycles run: 2242

Number of cycles run: 3774

Number of cycles run: 469

Number of cycles run: 1897

Number of cycles run: 3004

Number of cycles run: 6870

Number of cycles run: 3500

Number of cycles run: 1861

Number of cycles run: 2453

Number of cycles run: 13848

Number of cycles run: 4606

Number of cycles run: 2826

Number of cycles run: 34037

Number of cycles run: 382

Number of cycles run: 2670

Number of cycles run: 459

Number of cycles run: 3580

Number of cycles run: 1641

Number of cycles run: 1981

Number of cycles run: 2271

Number of cycles run: 3243

Number of cycles run: 5122

Number of cycles run: 40743

Number of cycles run: 1060

Number of cycles run: 50000

Number of cycles run: 1685

Number of cycles run: 1670

Number of cycles run: 2603

Number of cycles run: 3067

Number of cycles run: 3699

Number of cycles run: 1664

Number of cycles run: 12233

Number of cycles run: 6119

Number of cycles run: 6269

Number of cycles run: 11107

Number of cycles run: 2276

Number of cycles run: 25195

Number of cycles run: 1174

Number of cycles run: 2456

Number of cycles run: 1017

Number of cycles run: 16973

Number of cycles run: 5224

Number of cycles run: 50000

Number of cycles run: 2855

Number of cycles run: 3790

Number of cycles run: 1850

Number of cycles run: 967

Number of cycles run: 5859

Number of cycles run: 7705

Number of cycles run: 4645

Number of cycles run: 10455

Number of cycles run: 1697

Number of cycles run: 645

Number of cycles run: 50000

Number of cycles run: 12684

Number of cycles run: 2604

Number of cycles run: 8847

Number of cycles run: 5963

Number of cycles run: 1652

Number of cycles run: 2397

Number of cycles run: 1935

Number of cycles run: 1979

Number of cycles run: 2274

Number of cycles run: 3274

Number of cycles run: 2788

Number of cycles run: 632

Number of cycles run: 3220

Number of cycles run: 3247

Number of cycles run: 4584

Number of cycles run: 952

Number of cycles run: 679

Number of cycles run: 1451

Number of cycles run: 50000

Number of cycles run: 35688

Number of cycles run: 728

Av cycles for attraction strength 1.2 is 7674

standard diviation is 12771.2261746

Testing average cycles for attraction strength 1.2

Number of cycles run: 6228

Number of cycles run: 2159

Number of cycles run: 3264

Number of cycles run: 1978

Number of cycles run: 50000

Number of cycles run: 1499

Number of cycles run: 811

Number of cycles run: 1574

Number of cycles run: 4281

Number of cycles run: 1781

Number of cycles run: 6990

Number of cycles run: 3354

Number of cycles run: 589

Number of cycles run: 1254

Number of cycles run: 3441

Number of cycles run: 1303

Number of cycles run: 1132

Number of cycles run: 46332

Number of cycles run: 4146

Number of cycles run: 26282

Number of cycles run: 50000

Number of cycles run: 470

Number of cycles run: 1626

Number of cycles run: 1872

Number of cycles run: 2512

Number of cycles run: 1970

Number of cycles run: 2216

Number of cycles run: 41992

Number of cycles run: 2874

Number of cycles run: 2997

Number of cycles run: 1180

Number of cycles run: 942

Number of cycles run: 6191

Number of cycles run: 4136

Number of cycles run: 50000

Number of cycles run: 3651

Number of cycles run: 918

Number of cycles run: 50000

Number of cycles run: 2179

Number of cycles run: 1449

Number of cycles run: 3706

Number of cycles run: 1668

Number of cycles run: 7139

Number of cycles run: 3644

Number of cycles run: 1997

Number of cycles run: 23449

Number of cycles run: 50000

Number of cycles run: 1978

Number of cycles run: 2371

Number of cycles run: 805

Number of cycles run: 1523

Number of cycles run: 9201

Number of cycles run: 2029

Number of cycles run: 3452

Number of cycles run: 3173

Number of cycles run: 2167

Number of cycles run: 30739

Number of cycles run: 3270

Number of cycles run: 3586

Number of cycles run: 2619

Number of cycles run: 10684

Number of cycles run: 28762

Number of cycles run: 30534

Number of cycles run: 4073

Number of cycles run: 4719

Number of cycles run: 1928

Number of cycles run: 11214

Number of cycles run: 956

Number of cycles run: 1063

Number of cycles run: 9731

Number of cycles run: 6017

Number of cycles run: 34655

Number of cycles run: 1324

Number of cycles run: 3809

Number of cycles run: 3535

Number of cycles run: 1324

Number of cycles run: 50000

Number of cycles run: 7591

Number of cycles run: 2443

Number of cycles run: 8817

Number of cycles run: 2674

Number of cycles run: 956

Number of cycles run: 2149

Number of cycles run: 8699

Number of cycles run: 1904

Number of cycles run: 737

Number of cycles run: 3602

Number of cycles run: 50000

Number of cycles run: 2373

Number of cycles run: 2955

Number of cycles run: 50000

Number of cycles run: 4528

Number of cycles run: 1533

Number of cycles run: 3979

Number of cycles run: 2136

Number of cycles run: 5775

Number of cycles run: 1050

Number of cycles run: 1948

Number of cycles run: 1896

Number of cycles run: 1573

Av cycles for attraction strength 1.2 is 9297

standard diviation is 14820.8585892

Testing average cycles for attraction strength 1.2

Number of cycles run: 3216

Number of cycles run: 1758

Number of cycles run: 35423

Number of cycles run: 991

Number of cycles run: 811

Number of cycles run: 2520

Number of cycles run: 2020

Number of cycles run: 2501

Number of cycles run: 11893

Number of cycles run: 3944

Number of cycles run: 846

Number of cycles run: 2913

Number of cycles run: 12879

Number of cycles run: 5460

Number of cycles run: 5373

Number of cycles run: 3995

Number of cycles run: 2990

Number of cycles run: 4093

Number of cycles run: 2719

Number of cycles run: 426

Number of cycles run: 1513

Number of cycles run: 2190

Number of cycles run: 2477

Number of cycles run: 8977

Number of cycles run: 994

Number of cycles run: 5168

Number of cycles run: 4623

Number of cycles run: 8735

Number of cycles run: 7436

Number of cycles run: 737

Number of cycles run: 3847

Number of cycles run: 3537

Number of cycles run: 757

Number of cycles run: 564

Number of cycles run: 3571

Number of cycles run: 2776

Number of cycles run: 2952

Number of cycles run: 6466

Number of cycles run: 50000

Number of cycles run: 1017

Number of cycles run: 2382

Number of cycles run: 452

Number of cycles run: 2760

Number of cycles run: 2674

Number of cycles run: 50000

Number of cycles run: 3144

Number of cycles run: 50000

Number of cycles run: 2022

Number of cycles run: 21855

Number of cycles run: 7763

Number of cycles run: 1588

Number of cycles run: 3432

Number of cycles run: 470

Number of cycles run: 1207

Number of cycles run: 3020

Number of cycles run: 50000

Number of cycles run: 4808

Number of cycles run: 3070

Number of cycles run: 2663

Number of cycles run: 27252

Number of cycles run: 9364

Number of cycles run: 450

Number of cycles run: 2410

Number of cycles run: 430

Number of cycles run: 7116

Number of cycles run: 2358

Number of cycles run: 3332

Number of cycles run: 1607

Number of cycles run: 10916

Number of cycles run: 1028

Number of cycles run: 2739

Number of cycles run: 8206

Number of cycles run: 2198

Number of cycles run: 2741

Number of cycles run: 50000

Number of cycles run: 3643

Number of cycles run: 1456

Number of cycles run: 8191

Number of cycles run: 5209

Number of cycles run: 2307

Number of cycles run: 2702

Number of cycles run: 2837

Number of cycles run: 467

Number of cycles run: 2081

Number of cycles run: 450

Number of cycles run: 2689

Number of cycles run: 2080

Number of cycles run: 4278

Number of cycles run: 5359

Number of cycles run: 3566

Number of cycles run: 6227

Number of cycles run: 50000

Number of cycles run: 3168

Number of cycles run: 878

Number of cycles run: 3288

Number of cycles run: 18499

Number of cycles run: 2662

Number of cycles run: 3233

Number of cycles run: 3384

Number of cycles run: 7349

Av cycles for attraction strength 1.2 is 7165

standard diviation is 12064.6769194

Testing average cycles for attraction strength 1.2

Number of cycles run: 13375

Number of cycles run: 2993

Number of cycles run: 2095

Number of cycles run: 1550

Number of cycles run: 3917

Number of cycles run: 12541

Number of cycles run: 944

Number of cycles run: 2613

Number of cycles run: 1276

Number of cycles run: 15046

Number of cycles run: 4054

Number of cycles run: 3680

Number of cycles run: 50000

Number of cycles run: 3268

Number of cycles run: 8749

Number of cycles run: 5181

Number of cycles run: 1351

Number of cycles run: 6864

Number of cycles run: 6902

Number of cycles run: 4150

Number of cycles run: 3163

Number of cycles run: 2388

Number of cycles run: 4564

Number of cycles run: 32074

Number of cycles run: 2524

Number of cycles run: 3424

Number of cycles run: 4168

Number of cycles run: 4761

Number of cycles run: 597

Number of cycles run: 3864

Number of cycles run: 17513

Number of cycles run: 2495

Number of cycles run: 3880

Number of cycles run: 717

Number of cycles run: 4929

Number of cycles run: 4406

Number of cycles run: 4166

Number of cycles run: 2976

Number of cycles run: 1617

Number of cycles run: 4524

Number of cycles run: 1951

Number of cycles run: 2212

Number of cycles run: 3230

Number of cycles run: 2145

Number of cycles run: 1829

Number of cycles run: 3017

Number of cycles run: 530

Number of cycles run: 4737

Number of cycles run: 3438

Number of cycles run: 1319

Number of cycles run: 7173

Number of cycles run: 9021

Number of cycles run: 1540

Number of cycles run: 50000

Number of cycles run: 2533

Number of cycles run: 1445

Number of cycles run: 7402

Number of cycles run: 4146

Number of cycles run: 1271

Number of cycles run: 1791

Number of cycles run: 2468

Number of cycles run: 1263

Number of cycles run: 12606

Number of cycles run: 3534

Number of cycles run: 2279

Number of cycles run: 7986

Number of cycles run: 3437

Number of cycles run: 2872

Number of cycles run: 2800

Number of cycles run: 13918

Number of cycles run: 36872

Number of cycles run: 2734

Number of cycles run: 6098

Number of cycles run: 2392

Number of cycles run: 2516

Number of cycles run: 1609

Number of cycles run: 556

Number of cycles run: 7054

Number of cycles run: 2137

Number of cycles run: 5664

Number of cycles run: 4480

Number of cycles run: 2279

Number of cycles run: 3224

Number of cycles run: 4402

Number of cycles run: 422

Number of cycles run: 6331

Number of cycles run: 1273

Number of cycles run: 50000

Number of cycles run: 1669

Number of cycles run: 11318

Number of cycles run: 3011

Number of cycles run: 458

Number of cycles run: 10164

Number of cycles run: 2703

Number of cycles run: 5397

Number of cycles run: 10334

Number of cycles run: 463

Number of cycles run: 1016

Number of cycles run: 411

Number of cycles run: 3553

Av cycles for attraction strength 1.2 is 6137

standard diviation is 9492.26595642

Testing average cycles for attraction strength 1.2

Number of cycles run: 1062

Number of cycles run: 2361

Number of cycles run: 3728

Number of cycles run: 1893

Number of cycles run: 2096

Number of cycles run: 3831

Number of cycles run: 1338

Number of cycles run: 3381

Number of cycles run: 1726

Number of cycles run: 7042

Number of cycles run: 2782

Number of cycles run: 2100

Number of cycles run: 4020

Number of cycles run: 2160

Number of cycles run: 2621

Number of cycles run: 1612

Number of cycles run: 1696

Number of cycles run: 469

Number of cycles run: 5504

Number of cycles run: 1212

Number of cycles run: 2479

Number of cycles run: 6059

Number of cycles run: 3010

Number of cycles run: 5750

Number of cycles run: 2884

Number of cycles run: 3433

Number of cycles run: 2495

Number of cycles run: 1231

Number of cycles run: 12722

Number of cycles run: 2247

Number of cycles run: 2664

Number of cycles run: 2240

Number of cycles run: 50000

Number of cycles run: 18072

Number of cycles run: 5919

Number of cycles run: 3215

Number of cycles run: 5391

Number of cycles run: 10240

Number of cycles run: 471

Number of cycles run: 2841

Number of cycles run: 50000

Number of cycles run: 2795

Number of cycles run: 5378

Number of cycles run: 2374

Number of cycles run: 13915

Number of cycles run: 2309

Number of cycles run: 8627

Number of cycles run: 50000

Number of cycles run: 18160

Number of cycles run: 3866

Number of cycles run: 7057

Number of cycles run: 1344

Number of cycles run: 473

Number of cycles run: 1205

Number of cycles run: 1171

Number of cycles run: 1284

Number of cycles run: 1760

Number of cycles run: 3218

Number of cycles run: 2644

Number of cycles run: 2874

Number of cycles run: 3135

Number of cycles run: 2537

Number of cycles run: 12921

Number of cycles run: 3885

Number of cycles run: 50000

Number of cycles run: 1883

Number of cycles run: 1993

Number of cycles run: 6291

Number of cycles run: 2884

Number of cycles run: 1726

Number of cycles run: 22269

Number of cycles run: 34942

Number of cycles run: 50000

Number of cycles run: 447

Number of cycles run: 442

Number of cycles run: 1196

Number of cycles run: 5588

Number of cycles run: 725

Number of cycles run: 2385

Number of cycles run: 50000

Number of cycles run: 24994

Number of cycles run: 849

Number of cycles run: 5637

Number of cycles run: 2075

Number of cycles run: 7043

Number of cycles run: 6013

Number of cycles run: 4719

Number of cycles run: 1601

Number of cycles run: 2056

Number of cycles run: 3030

Number of cycles run: 1850

Number of cycles run: 2849

Number of cycles run: 3005

Number of cycles run: 1666

Number of cycles run: 1887

Number of cycles run: 3734

Number of cycles run: 6440

Number of cycles run: 5305

Number of cycles run: 2290

Number of cycles run: 916

Av cycles for attraction strength 1.2 is 7196

standard diviation is 12091.2502049

Testing average cycles for attraction strength 1.2

Number of cycles run: 19337

Number of cycles run: 2453

Number of cycles run: 12661

Number of cycles run: 2822

Number of cycles run: 50000

Number of cycles run: 7078

Number of cycles run: 465

Number of cycles run: 5427

Number of cycles run: 46099

Number of cycles run: 1449

Number of cycles run: 1210

Number of cycles run: 1092

Number of cycles run: 2963

Number of cycles run: 5094

Number of cycles run: 1202

Number of cycles run: 1360

Number of cycles run: 8777

Number of cycles run: 4428

Number of cycles run: 2091

Number of cycles run: 27902

Number of cycles run: 895

Number of cycles run: 471

Number of cycles run: 3981

Number of cycles run: 2169

Number of cycles run: 9979

Number of cycles run: 13830

Number of cycles run: 50000

Number of cycles run: 1254

Number of cycles run: 2563

Number of cycles run: 1684

Number of cycles run: 4466

Number of cycles run: 3663

Number of cycles run: 1773

Number of cycles run: 2415

Number of cycles run: 8520

Number of cycles run: 47121

Number of cycles run: 806

Number of cycles run: 841

Number of cycles run: 2518

Number of cycles run: 445

Number of cycles run: 10727

Number of cycles run: 784

Number of cycles run: 857

Number of cycles run: 5520

Number of cycles run: 1699

Number of cycles run: 3340

Number of cycles run: 1926

Number of cycles run: 50000

Number of cycles run: 2711

Number of cycles run: 4786

Number of cycles run: 6101

Number of cycles run: 3837

Number of cycles run: 2754

Number of cycles run: 3849

Number of cycles run: 1084

Number of cycles run: 1110

Number of cycles run: 1117

Number of cycles run: 470

Number of cycles run: 4798

Number of cycles run: 6703

Number of cycles run: 2549

Number of cycles run: 5833

Number of cycles run: 3775

Number of cycles run: 2663

Number of cycles run: 29789

Number of cycles run: 1520

Number of cycles run: 751

Number of cycles run: 1760

Number of cycles run: 2388

Number of cycles run: 1641

Number of cycles run: 764

Number of cycles run: 5517

Number of cycles run: 1099

Number of cycles run: 1672

Number of cycles run: 1828

Number of cycles run: 2008

Number of cycles run: 1682

Number of cycles run: 2791

Number of cycles run: 9490

Number of cycles run: 8317

Number of cycles run: 50000

Number of cycles run: 7323

Number of cycles run: 3817

Number of cycles run: 841

Number of cycles run: 773

Number of cycles run: 50000

Number of cycles run: 50000

Number of cycles run: 1378

Number of cycles run: 1673

Number of cycles run: 2101

Number of cycles run: 2935

Number of cycles run: 471

Number of cycles run: 4566

Number of cycles run: 408

Number of cycles run: 21850

Number of cycles run: 1294

Number of cycles run: 414

Number of cycles run: 9971

Number of cycles run: 2492

Number of cycles run: 2959

Av cycles for attraction strength 1.2 is 7805

standard diviation is 13283.2447235