

Project 1 Results

1)

BFS Search:

Initial state:

043

278

651

First 5 moves:

243

078

651

243

708

651

243

758

601

243

758

610

243

750

618

Number of explored nodes: 83466

Number of moves: 22

A Star H1:

Initial state:

043

278

651

First 5 moves:

243

078

651

243

708

651

243

780

651

240

783

651

204

783

651

Number of explored nodes: 5947

Number of moves: 22

A Star H2:

Initial state:

043

278

651

First 5 moves:

243

078

651

243

708

651

243

780

651

243
781
650

243
781
605

Number of explored nodes: 1020
Number of moves: 22

2)

BFS Search:

Initial state:
428
175
603

First 5 moves:
428
105
673

428
015
673

428
615
073

428
615
703

428
615
730

Number of explored nodes: 65650

Number of moves: 21

A Star H1:

Initial state:

428

175

603

First 5 moves:

428

105

673

428

015

673

428

615

073

428

615

703

428

615

730

Number of explored nodes: 4331

Number of moves: 21

A Star H2:

Initial state:

428

175

603

First 5 moves:

428

105

673

428
015
673

428
615
073

428
615
703

428
615
730

Number of explored nodes: 1377
Number of moves: 21

3)

BFS Search:

Initial state:
216
587
034

First 5 moves:
216
087
534

216
807
534

216
837
504

216
837
054

216
037
854

Number of explored nodes: 126999
Number of moves: 24

A Star H1:

Initial state:
216
587
034

First 5 moves:
216
087
534

216
807
534

216
837
504

216
837
540

216
830
547

Number of explored nodes: 14822
Number of moves: 24

A Star H2:

Initial state:

216

587

034

First 5 moves:

216

087

534

216

807

534

216

837

504

216

837

540

216

830

547

Number of explored nodes: 1648

Number of moves: 24

4)

BFS Search:

Initial state:

216

587

034

First 5 moves:

216

087

534

216
807
534

216
837
504

216
837
054

216
037
854

Number of explored nodes: 126999
Number of moves: 24

A Star H1:

Initial state:
216
587
034

First 5 moves:
216
087
534

216
807
534

216
837
504

216
837
540

216
830
547

Number of explored nodes: 14822
Number of moves: 24

A Star H2:

Initial state:
216
587
034

First 5 moves:
216
087
534

216
807
534

216
837
504

216
837
540

216
830
547

Number of explored nodes: 1648
Number of moves: 24

5)

BFS Search:

Initial state:

641

523

087

First 5 moves:

641

523

807

641

503

827

601

543

827

610

543

827

613

540

827

Number of explored nodes: 89014

Number of moves: 22

A Star H1:

Initial state:

641

523

087

First 5 moves:

641

523

807

641

503

827

601

543

827

610

543

827

613

540

827

Number of explored nodes: 5456

Number of moves: 22

A Star H2:

Initial state:

641

523

087

First 5 moves:

641

523

807

641

503

827

601

543

827

610

543

827

613

540

827

Number of explored nodes: 430

Number of moves: 22

6)

BFS Search:

Initial state:

648

172

530

First 5 moves:

648

170

532

640

178

532

604

178

532

064

178

532

164

078

532

Number of explored nodes: 77895

Number of moves: 22

A Star H1:

Initial state:

648

172

530

First 5 moves:

648

172

503

648

172

053

648

072

153

048

672

153

408

672

153

Number of explored nodes: 6067

Number of moves: 22

A Star H2:

Initial state:

648

172

530

First 5 moves:

648

170

532

640

178

532

604

178

532

064

178

532

164

078

532

Number of explored nodes: 491

Number of moves: 22

7)

BFS Search:

Initial state:

426

387

051

First 5 moves:

426

387

501

426

307

581

426

370

581

426

371

580

426

371

508

Number of explored nodes: 92489

Number of moves: 22

A Star H1:

Initial state:

426

387

051

First 5 moves:

426

387

501

426

307

581

426

370

581

426

371

580

426

371

508

Number of explored nodes: 5454

Number of moves: 22

A Star H2:

Initial state:

426

387

051

First 5 moves:

426

387

501

426

387

510

426

380

517

426

308

517

426

038

517

Number of explored nodes: 1724

Number of moves: 22

8)

BFS Search:

Initial state:

806

215

374

First 5 moves:

816

205

374

816

025

374

016

825

374

106

825

374

126

805

374

Number of explored nodes: 148457

Number of moves: 25

A Star H1:

Initial state:

806

215

374

First 5 moves:

816

205

374

816

025

374

016

825

374

106

825

374

126

805

374

Number of explored nodes: 21806

Number of moves: 25

A Star H2:

Initial state:

806

215

374

First 5 moves:

816

205

374

816

025

374

016

825

374

106

825

374

126

805

374

Number of explored nodes: 4523

Number of moves: 25

9)

BFS Search:

Initial state:

548

162

370

First 5 moves:

548

160

372

540

168

372

504

168

372

054

168

372

154

068

372

Number of explored nodes: 160034

Number of moves: 26

A Star H1:

Initial state:

548

162

370

First 5 moves:

548

160

372

540

168

372

504

168

372

054

168

372

154

068

372

Number of explored nodes: 31945

Number of moves: 26

A Star H2:

Initial state:

548

162

370

First 5 moves:

548

160

372

540

168

372

504

168

372

054

168

372

154

068

372

Number of explored nodes: 8854

Number of moves: 26

10)

BFS Search:

Initial state:

568

410

732

First 5 moves:

560

418

732

506

418

732

056

418

732

456

018

732

456

108

732

Number of explored nodes: 107988

Number of moves: 23

A Star H1:

Initial state:

568

410

732

First 5 moves:

560

418
732

506
418
732

056
418
732

456
018
732

456
108
732

Number of explored nodes: 11549
Number of moves: 23

A Star H2:

Initial state:
568
410
732

First 5 moves:
560
418
732

506
418
732

056
418
732

456
018

732

456

108

732

Number of explored nodes: 472

Number of moves: 23