

CONTENTS

Project 1. Bagels	1
Project 2. Birthday Paradox	6
Project 3. Bitmap Message	11
Project 4. Blackjack	15
Project 5. Bouncing DVD Logo	23
Project 6. Caesar Cipher	29
Project 7. Caesar Hacker	33
Project 8. Calendar Maker	36
Project 9. Carrot in a Box	41
Project 10. Cho-Han	47
Project 11. Clickbait Headline Generator	51
Project 12. Collatz Sequence	57
Project 13. Conway's Game of Life	60
Project 14. Countdown	64
Project 15. Deep Cave	67
Project 16. Diamonds	70
Project 17. Dice Math	74
Project 18. Dice Roller	80
Project 19. Digital Clock	84
Project 20. Digital Stream	87
Project 21. DNA Visualization	91
Project 22. Ducklings	95
Project 23. Etching Drawer	101
Project 24. Factor Finder	107
Project 25. Fast Draw	111
Project 26. Fibonacci	114
Project 27. Fish Tank	118
Project 28. Flooder	126
Project 29. Forest Fire Sim	133
Project 30. Four in a Row	138
Project 31. Guess the Number	144
Project 32. Gullible	148
Project 33. Hacking Minigame	151
Project 34. Hangman and Guillotine	157
Project 35. Hex Grid	163
Project 36. Hourglass	166
Project 37. Hungry Robots	172
Project 38. J'accuse!	179

Project 39.	Langton's Ant	187
Project 40.	Leetspeak	193
Project 41.	Lucky Stars	196
Project 42.	Magic Fortune Ball	203
Project 43.	Mancala	207
Project 44.	Maze Runner 2D.	214
Project 45.	Maze Runner 3D.	220
Project 46.	Million Dice Roll Statistics Simulator.	229
Project 47.	Mondrian Art Generator	232
Project 48.	Monty Hall PROBLEM	239
Project 49.	Multiplication Table	246
Project 50.	Ninety-Nine Bottles	249
Project 51.	niNety-nniinE BoOttels	252
Project 52.	Numeral System Counters	256
Project 53.	Periodic Table of the Elements.	261
Project 54.	Pig Latin.	265
Project 55.	Powerball Lottery.	269
Project 56.	Prime Numbers	274
Project 57.	Progress Bar	278
Project 58.	Rainbow	282
Project 59.	Rock Paper Scissors.	285
Project 60.	Rock Paper Scissors (Always-Win Version)	289
Project 61.	ROT13 Cipher	293
Project 62.	Rotating Cube.	296
Project 63.	Royal Game of Ur	303
Project 64.	Seven-Segment Display Module	311
Project 65.	Shining Carpet	315
Project 66.	Simple Substitution Cipher	318
Project 67.	Sine Message	323
Project 68.	Sliding Tile Puzzle	326
Project 69.	Snail Race	333
Project 70.	Soroban Japanese Abacus.	337
Project 71.	Sound Mimic	343
Project 72.	sPoNgEcAsE.	347
Project 73.	Sudoku Puzzle	350
Project 74.	Text-To-Speech Talker	357
Project 75.	Three-Card Monte	360
Project 76.	Tic-Tac-Toe	365

Project 77. Tower of Hanoi	369
Project 78. Trick Questions	374
Project 79. Twenty Forty Eight	381
Project 80. Vigenère Cipher	389
Project 81. Water bucket Puzzle	394