

[BOOK] THE COMPLETE BATCH SCRIPT COLLECTION

A Comprehensive Guide to Advanced Batch Programming

Version: 1.0

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1. [Introduction](#introduction)

INTRODUCTION

This book contains all 65 batch scripts from the Batch.Script.Collection, organized by category with detailed explanations of interesting and unusual code behaviors.

Collection Statistics

Total Scripts: 65

What You'll Learn

- Advanced batch scripting techniques

CHAPTER 1: ASCII ART & VISUAL EFFECTS

1.1 Matrix.cmd - The Matrix Rain Effect

Overview

Full Code

Size: 0.17 KB | **Complexity:** *

What's Interesting Here

1. Infinite Loop Pattern

2. Color Code System

3. Random Number Generation

Usage

Educational Value

1.2 Parrot.bat - Complex ASCII Art with Color Management

Overview

Size: 4.36 KB | **Complexity:** ****

What's Interesting Here

1. Color Switching Subroutine

This unusual pattern creates a color switching system by:

2. Escape Character Handling

3. Multi-Line ASCII Art Storage

4. Delayed Expansion Pattern

Technical Insights

The script demonstrates that batch can render complex ASCII art by:

Performance Note

1.3 Windows Logo.bat & Windows Activation Tools.bat

Overview

What's Interesting

1. UTF-8 Encoding

2. ANSI Color Codes

Breaking this down:

3. Box Drawing Characters

Windows 10+ Requirement

CHAPTER 2: CALCULATORS

2.1 Calculator Pro v1.8.cmd - Professional Scientific Calculator

Overview

Size: 7.32 KB | **Complexity:** ****

Key Features

What's Interesting Here

1. ESC Character Generation

This is the **standard pattern** for getting the ESC character in modern batch:

Explanation of `echo prompt \$E`:

2. Persistent History System

This pattern:

3. Menu-Driven Interface

4. Arithmetic Evaluation

Usage Example

History File Location

2.2 Calculator Basic.cmd - Minimal Implementation

Overview

Size: 0.48 KB | **Complexity:** *

Full Code

What's Interesting

1. Error Handling for Division by Zero

This demonstrates:

2. Lazy Input Validation

CHAPTER 3: SYSTEM CLEANUP TOOLS

3.1 Clear Windows Defender History.cmd - Hybrid Batch/PowerShell

Overview

Size: 2.03 KB | **Complexity:** ****

What's Interesting Here

1. Polyglot Script Structure

This uses a **polyglot pattern** - a file that is valid in multiple languages:

2. Admin Privilege Check and Elevation

Breaking down:

3. Scheduled Task Creation

This creates a scheduled task that:

Why This Matters

3.2 Empty Bin.cmd - Advanced COM Object Usage

Overview

Size: 1.69 KB | **Complexity:** ****

What's Interesting Here

1. COM Object for Shell Operations

This demonstrates:

2. Logging Pattern

Creates **auto-incrementing log files** using:

3. API Calling via PowerShell

Shows how batch scripts can leverage PowerShell to access:

Security Note

3.3 Clear Cookies.bat - Simple Pattern

Overview

Size: 0.33 KB | **Complexity:** *

Full Code

What's Interesting

1. del Command Flags

This is the **standard pattern** for safe file deletion.

2. AppData Path

CHAPTER 4: MENU SYSTEMS & CLI INTERFACES

4.1 Hybrid Batch + PowerShell Menu - Advanced UI Design

Overview

Size: 3.22 KB | **Complexity:** *****

What's Interesting Here

1. PowerShell-Based Menu with Screen Management

This demonstrates:

2. Screen Buffer Management for Menu Redraw

This allows:

3. Center-Aligned Menu Calculation

Shows:

4. Non-Blocking Input

Allows:

Why This Matters

4.2 Multiline Menu with JScript - Polyglot Advanced

Overview

Size: 1.23 KB | **Complexity:** *****

What's Interesting Here

1. Batch-JScript Polyglot

This creates a file that:

2. Leveraging DOSKEY History

Shows:

3. DOSKEY Menu Selection

User selects by number - simple but effective interface.

Educational Value

CHAPTER 5: CLOCK & TIME DISPLAYS

5.1 Seven-Segment Display Clock - Creative Visualization

Overview

Size: 3-6 KB per variant | Complexity: *****

What's Interesting Here

1. Segment-Based Digit Representation

This creates a **segment map** for each digit:

2. Digit Rendering Algorithm

Displays segments in proper order:

3. Time String Parsing

Key string operations:

4. Variants Explained

| Variant | Feature | Size |

Performance Note

This is **inefficient** but works in batch.

5.2 Offset-Based Clock - Performance Optimized

Overview

Size: 1.14 KB | Complexity: ***

What's Interesting Here

1. Time Offset Calculation

This technique:

2. Lag Detection

Compares current seconds with expected seconds:

3. Ping-Based Timing

Uses ping for **low-overhead delays**:

Why This Approach

CHAPTER 6: SYSTEM DIAGNOSTICS

6.1 HARD-iNfO - Professional System Profiler

Overview

Size: 11.01 KB | Complexity: *****

What's Interesting Here

1. Hybrid Batch/PowerShell Polyglot

The `^` at line end:

2. WMI Object Queries

WMI classes provide:

3. Unit Conversion

Demonstrates:

4. Memory Type Detection

Uses **SMBIOS memory types** to identify:

5. Counting RAM Slots

Shows:

Information Gathered

The script displays:

Error Handling

`-ErrorAction SilentlyContinue` prevents errors if:

CHAPTER 7: FILE OPERATIONS

7.1 File Manager Pro v1.5.cmd - Professional CLI Application

Overview

Size: 13.53 KB | Complexity: *****

What's Interesting Here

1. ESC Character Setup

This is the **most reliable method** to get ESC:

Breaking it down:

2. Professional Box Drawing

Uses Unicode box-drawing characters with ANSI colors for professional appearance.

3. ANSI Color Variables

ANSI format explained:

4. Dynamic Message Display

Pattern for **one-time messages**:

5. File Operations with ROBOCOPY

ROBOCOPY advantages over batch's `copy`:

6. Complex Menu with 18 Operations

Large menu requires:

State Variables Managed

Why This Is Professional

7.2 File List Generator - Logging and Output

Overview

Size: 5.67 KB | Complexity: ***

What's Interesting Here

1. Standard Logging Location

Professional pattern:

2. Output File Generation

Shows:

3. Directory Selection Menu

Pattern for:

CHAPTER 8: GAMES

8.1 Snake the Batch Game - Real-Time Game Engine

Overview

Size: 4.70 KB | Complexity: ****

What's Interesting Here

1. Self-Referential Execution

This **parallel execution pattern**:

Breaking down:

2. Game State as Variables

Shows:

3. Movement Vector System

Elegant pattern:

4. Skin System with ANSI Colors

ANSI 24-bit true colors:

5. Parallel Input Handling

Non-blocking input:

6. Collision Detection

Simple collision logic:

7. Score Persistence

Saves high scores with:

Game Architecture

Main Game Loop:

This is a **complete game engine** in batch - remarkable achievement.

8.2 CMD-Rubik-s-Cube - 3D State Management

Overview

Size: 8.85 KB | Complexity: *****

What's Interesting Here

1. 3D Cube State Representation

Cube state using 54 positions (6 faces × 9 positions):

2. Rotation Transformation Matrices

This is **permutation mapping**:

Example: Rotating front face clockwise:

The transformation:

3. Cube Visualization

2D projection of 3D cube:

4. Rotation Controls

Keyboard mapping:

5. Win Condition

Checks if all 6 faces are:

8.3 Minesweeper - Grid-Based Game Logic

Overview

Size: 7.97 KB | Complexity: ****

What's Interesting Here

1. Difficulty Level Setup

Different difficulty presets:

2. Mine Placement Algorithm

Random mine placement:

3. Adjacent Mine Counting

Nested loop checks 8 adjacent cells:

4. Flood Fill for Empty Cells

When cell has 0 adjacent mines:

5. High Score System

Persistent high scores:

CHAPTER 9: UTILITIES

9.1 Clear Pending Windows Updates.bat

Overview

Key Operations

9.2 Clear Thumbnail Cache.bat

Overview

Key Files Cleaned

9.3 USB Write Protection Control

Overview

Registry Key Modified

States:

Admin Requirement

CHAPTER 10: NOTEPAD & TEXT EDITORS

10.1 Simple Notepad [EN].cmd - Auto-Saving Notes

Overview

Size: 3.33 KB | Complexity: ***

What's Interesting Here

1. Note Storage Directory

Creates standard location for notes in user profile.

2. Timestamp-Based Filenames

Breaking down:

3. Console Input for Text Entry

`copy con` command:

4. Note Browsing Menu

Shows notes sorted:

5. Bilingual Implementation

Two complete interface sets:

Features

CHAPTER 11: REGISTRY EDITOR

11.1 RegEditor v1.0 - Registry Management CLI

Overview

Size: 5.50-5.91 KB | Complexity: ****

What's Interesting Here

1. Admin Privilege Enforcement

Ensures admin:

2. Professional ASCII Banner

ANSI art for professional appearance.

3. Comprehensive Menu

9 major operations covering registry management.

4. Logging System

All operations logged with:

5. Registry Operations

ADD Entry:

DELETE Key:

QUERY Value:

EXPORT Branch:

Supported Registry Operations

| Operation | Command | Notes |

Caution

CHAPTER 12: ADVANCED TECHNIQUES INDEX

Common Patterns Used Throughout Collection

1. Admin Privilege Escalation Pattern

Used in: Clear scripts, USB Protection, RegEditor, etc.

2. ESC Character Generation

Used in: Almost all modern scripts for ANSI colors

3. Directory Creation with Existence Check

Used in: File Manager, Notepad, Calculator, etc.

4. Timestamp Generation

Used in: Logging, file naming, timestamping

5. Error Suppression

Used throughout for clean execution

6. Menu Loop Pattern

Used in: File Manager, Calculator, RegEditor, etc.

7. Array Simulation

Used in: Games, File Manager, multi-value storage

8. Delayed Expansion for Loop Modification

Used in: Any script needing to modify variables in loops

CHAPTER 13: CODE PATTERNS REFERENCE

String Manipulation Patterns

Character Extraction

Character Replacement

String Length (workaround)

Arithmetic Patterns

Basic Operations

Bitwise Operations

Conditional in Arithmetic

Loop Patterns

FOR /L - Numeric Loop

FOR /F - Parse Content

FOR /R - Recursive Directory

Nested Loops

File Operation Patterns

File Deletion

Directory Operations

File Copy/Move

Directory Listing

Process & System Patterns

Running External Programs

Registry Operations

System Information

Advanced Patterns

Polyglot Batch/PowerShell

Batch/JScript Polyglot

Temporary File Handling

Error Handling

Variable Existence Check

CONCLUSION

This comprehensive collection of 65 batch scripts demonstrates that batch programming is far more powerful and sophisticated than commonly believed. From simple utilities to complex games with real-time input handling, these scripts showcase:

Key Achievements

- **Professional CLI design** with ANSI colors and box drawing

Modern Batch Capabilities

With Windows 10+ support for ANSI colors and Virtual Terminal Mode, batch scripts can now:

Learning Path

Begin with:

Practical Applications

These scripts can be used for:

The collection proves that batch scripting remains a viable and powerful tool for Windows developers and system administrators.

How to Convert to PDF

To convert this markdown document to PDF, use one of these methods:

Method 1: Pandoc (Recommended)

Method 2: Online Converter

Method 3: Print to PDF

The Complete Batch Script Collection