# Batch Files

- Programming Without
- Program Protection

# Why Batch Files

- Automate Common Keystrokes
    - » AUTOEXEC.BAT Save strokes
    - » Single command to do many
- Reduce Confusion
    - » CHECK instead of CHKDSK
    - » Use Name you want
    - » Reduce Complicated to Simple
- Safety From Dangerous DOS Commands
    - » Parameters can be added
- Become like Programs

# Example

- WPMONO.BAT
- C:
- cd\wp51
- CURSOR /GB
- WP /NE /MONO
- CURSOR /BG
- cd\
- Echo Have a Nice Dav

# Requirements

- Must have the .BAT Extension
    - » Executed by WPMONO (no ext)
- Must be ASCII
    - » EDIT or EDLIN
    - » WP save as TEXT
        - • <Ctrl><F5>
    - » WordStar Non Document
- Should not have the same name as any .COM or .EXE programs
- Must not have the same name as any Internal programs
    Using name.BAT can override

# Problems

- DOS reads commands from .BAT one at a time
  - » MUST be available entire duration
- ERRORS on one command will not stop
  - » Considers each line Independent
  - » CD doss    not found
  - » del *.*    does it any way
  - » cd ..     move up one
  - » del *.*    again does it

# Errors

- Better to have ECHO ON so can see the instructions as they occur

- Ctrl C or Ctrl Break to Abort

- Walk through the instructions at the Command line first to make sure correct

- Can be real problem with BAD Parameters

# Batch Commands

- **ECHO  display**
- **IF test conditions**
- **IF EXIST test file(s) exist**
- **GOTO branch to label**
- **PAUSE temporary stop**
- **REM  comment**
- **SHIFT  shift parameters**
- **%0 …. %9  parameters**

# Replaceable Parms

- Batch files use %0 thru %9
- Hold space for the environment to supply values
- DOS stores in Stacks
  - » Like trays at Lubys
  - » Can have more than 10 DOS holds seperate
- the current %0 .. %9 are reusable
- %0 is always the command or batch file
- USE SHIFT to get access to beyond %9

# Repl Parm

- COPY A:XXX.TXT B:YYY.TXT
- %0 = COPY
- %1 = A:XXX.TXT
- %2 = B:YYY.TXT
- %3 = NUL

# Ex No Parms

- MOVE a Directory
- dos to olddos
- MD OLDDOS
- COPY DOS\*.* OLDDOS
- DEL DOS\*.*

- Start by replacing hardcoded with %1 and %2
  - MD %2
  - COPY %1\*.* %2
  - DEL %1\*.*

# Repl Cont

- **echo moveit.bat**
- **ECHO about to MOVE %1**
- **MD %2**
- **DIR %1**
- **COPY %1\*.* %2**
- **DIR %2**
- **ECHO If you do not want to del %1**
- **ECHO Press<Ctrl> <break> NOW any**
- **ECHO key press will del %1**
- **PAUSE**
- **DEL %1\*.***

## Example

- **ECHO ****** XA.BAT with %1**
- **REM %1 IS THE DATE THAT**
- **REM I NEED TO COPY FROM**
- **XCOPY C:\ A:\ /S/P/D:%1**
- **ECHO HAVE A NICE DAY**

# ECHO

- Displays messages, or turns command-echoing on or off.
- ECHO [ON | OFF]
- ECHO [message]
- Type ECHO without parameters to display the current echo setting.
- @ECHO OFF turns off and does not display ECHO OFF

# ECHO  USES

- **Display messages ERROR and other give users hints on what to do**
- **Uses Replaceable parameters**

## ECHO Examples

- **ECHO xxxxxechoit.batxxxxxxxxx**
- **ECHO Running %0**
- **echo parameter 1 is %1**
- **echo parameter 2 is %2**
- **echo xxxxxxxxxxxxxxx**

- **echo %1 is an Invalid Entry**

# IF

- Performs conditional processing in batch programs.
- IF [NOT] ERRORLEVEL number command
- IF [NOT] string1==string2 command
- IF [NOT] EXIST filename command
  - » NOT Specifies that MS-DOS should carry out the command only if the condition is false.

# IF Cont

- ERRORLEVEL number Specifies a true condition if the last program run returned an exit code equal to or greater than the number specified.

- command Specifies the command to carry out if the condition is met.

- string1==string2 Specifies a true condition if the specified text strings match.

- EXIST filename Specifies a true condition if the specified filename exists.

- Note the == for Equality test = is assignment

# IF Examples

- **IF /%1==/ GOTO END**
  - » /==%1/ tests for existence of %1 ie NUL
- **IF NOT %1==A ECHO %1 IS NOT AN A**
- **IF %1==A GOTO ALPHA**
  - » Below two actions same parameter
- **IF %1==1 ECHO 1 ENTERED**
- **IF %1==1 GOTO END**

# GOTO

- Directs MS-DOS to a labelled line in a batch program.

- GOTO label

- label Specifies a text string used in the batch program as a label.

- You type a label on a line by itself, beginning with a colon.

- :END  :NOPARMS  :allok

# SHIFT

- **Changes the position of replaceable parameters in a batch file.**

- **Cause values in each % to shift to the left**
    - » %0 falls into the bit bucket
    - » %1 has value that %2 had
    - » 3.%2 has value that %3 had

- **Will continue until %0 is NUL**

# PAUSE/REM

- Suspends processing of a batch program and displays the message "Press any key to continue...."
- PAUSE "Time to Get Working Now"
  - » PAUSE "Time to Get Working Now"
- Press any key to continue
  - » ECHO OFF only Press ... continue shows
- rem Records comments (remarks) in a batch file or CONFIG.SYS.
- REM [comment] note only shows if ECHO ON

# CALL

- CALL [drive][path]filename [batch parameters]

- Must use when one batch file executes another or the second will not return back to caller when finishes its own actions

- Same as the COMMAND/C
  - » Creates another environment and EXIT when finishes

# FOR

- **Repeated command within specified conditions**
- **FOR %%variable IN (set) DO dos_command %% replaceable parameters**
- **FOR %variable IN ......  at the command line**
  - **FOR %h IN (*.TXT) DO COPY %h  PRN**
  - **all TXT files (in current sub) will be copied to the printer one at a time**

# FOR Ex.

- **Example to UNPACK files and Print**
  - » **FOR %h IN (*.PAK) DO CALL UNPKPRT %h**
  - » **%%h if was in a batch file**
- **REM UNPKPRT**
- **ECHO OFF**
- **ECHO xxxxxxxxxxxxx > PRN**
- **ECHO Here is %1 > PRN**
- **ECHO xxxxxxxxxxxxx > PRN**
- **PAK V %1 > PRN**

**prt *.bat *.txt *.bak**

- **REM Print a bunch**
- **ECHO OFF**
- **TOP**
- **IF /%1==/ GOTO END**
  - » **FOR %%G IN (%1) DO CALL PRINTIT %%G**
- **SHIFT**
- **GOTO TOP**
- **:END**

## PRINTIT

- **ECHO xxxxxxxxxxxx > PRN**
- **ECHO Here is %1 > PRN**
- **ECHO xxxxxxxxxxxx > PRN**
- **COPY %1 PRN**
- **TOF**

# Ex. Exist

- **ECHO OFF**
- **REM IF2.BAT**
- **IF EXIST *.OBJ ECHO *.OBJ files being erased**
- **IF EXIST *.OBJ DEL *.OBJ**
- **IF EXIST *.BAK ECHO *.BAK files being erased**
- **IF EXIST *.BAK DEL *.BAK**
- **ECHO finished erasing**

# Ex. Find

- REM FILEFIND.BAT
- IF %1==. GOTO ERROR
- CHKDSK /V | FIND "%1"
- GOTO END
- :ERROR
- ECHO MUST ENTER FILE NAME TO MATCH
- GOTO END
- :END

# Menu

- **Create Text File with comments**

- **Allow for Single Letter .BAT files**

- **Not Best as single Letter BAT files are limited**
    - » 37 max
    - » Not Descriptive
    - » Clutter Root