МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

Учреждение образования «БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНОЛОГИЧЕСКИЙ УНИВЕРСИТЕТ»

Факультет Информационных технологий

**ОТЧЕТ ПО ЛАБОРАТОРНОЙ РАБОТЕ №1**

**По дисциплине «Операционные системы и системное программирование»**

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Минск 2023

Lab1

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# **Задание 01. Команды (утилиты) Windows**

|  |  |  |
| --- | --- | --- |
| **appwiz.cpl** | Appwiz.cpl is a run command shortcut to open the **Add/Remove Programs** or **Uninstall a Program** list on Microsoft Windows XP, Vista, 7, 8, and 10.   |  | | --- | |  | |
| **calc** | The `calc` command is a Unix command that allows you to perform simple calculations from the command line. |
| **charmap** | Character Map is a free utility available in all Windows operating systems for inserting special symbols, accented letters or foreign-language characters into any Windows-based application. |
| **chkdsk** | CHKDSK (check disk) is a system tool or utility on Windows operating systems that scans your hard drive for file system errors. Running the CHKDSK utility helps check and repair hard drive errors and keeps your system data organized — it’s part of good computer hygiene. |
| **cleanmgr** | Clears unnecessary files from your computer’s hard disk. |
| **cmd** | The cmd command starts a new instance(экземпляр) of the cmd.exe command interpreter |
| **compmgmt.msc** | **compmgmt.msc** opens Computer Management. |
| **control** | The control command enables users to open the Control Panel and its components from command prompt. |
| **control admintools** | The control admintools command opens Window Tools. |
| **control desktop** | Opens the Microsoft Windows Display Properties window. |
| **control folders** | Opens the Microsoft Window Folder Option. |
| **control fonts** | Opens the Microsoft Window Fonts folder. |
| **control keyboard** | Opens the Microsoft Windows Keyboard Properties window. |
| **control mouse** | Opens mouse properties. |
| **control printers** | Opens printers window. |
| **control schedtasks** | Opens task scheduler window. |
| **desk.cpl** | Opens Display Settings. |
| **devmgmt.msc** | Starting the Device Manager |
| **dfrgui** | Opens the Disk Defragmenter app. |
| **diskmgmt.msc** | Opens window with Disk Management. |
| **dxdiag** | Used to generate a dxdiag text report file,which has detailed information about your computer’s graphics , sound , and other devices |
| **eventvwr.msc** | Event Viewer is a standard Windows tool that reads Windows event logs and displays detailed information about Windows events on your computer. |
| **explorer** | Command-line switches that you can use to open the GUI Windows Explorer(проводник) |
| **firewall.cpl** | Opens settings window of Window’s Firewall |
| **iexplore** |  |
| **inetcpl.cpl** | Used for opening Internet Options |
| **logoff** | Use the LOGOFF command to terminate your terminal session. When you enter the LOGOFF command, the system frees all the data sets allocated to you. Data remaining in storage is lost. |
| **magnify** | Magnifier(Лупа) is an accessibility tool bundled with Windows 10. When enabled, Magnifier makes part or all of your screen bigger so you can see words and images better. |
| **main.cpl** | Opens mouse properties |
| **mdsched** | Opens memory diagnostic tool. |
| **migwiz** | This command is used to open Migration Wizzard |
| **mmc** | The **mmc** run command is used to enter the console root window. It shows the details of console information present for a specific file. It also allows making any modifications in these windows. |
| **mmsys.cpl** | Multimedia properties |
| **mrt** | mrt.exe is the Windows Malicious Software Removal Tool. This handy app made by Microsoft will check your PC for malware, then remove it. |
| **msconfig** | System configuration menu |
| **msinfo32** | This tool gathers information about your computer and displays a comprehensive view of your hardware, system components, and software environment, which you can use to diagnose computer issues. |
| **mspaint** | Opens Paint |
| **ncpa.cpl** | The ncpa.cpl(ncpa = **Network Control Panel Applet** cpl = Control Panel.) command is used to open the "Network Connections" control panel applet in Windows operating systems. |
| **notepad** | Opens notepad |
| **osk** | To open the on-screen keyboard, enter the Windows CMD command “osk” in the “Run” window. |
| **perfmon** | Start Windows Reliability and Performance Monitor. |
| **powercfg.cpl** | used to control all configurable power system settings. |
| **psr** | Opens  problem steps recorder (psr) |
| **regedit** | Regedit is a standart Windows executable file that opens the built-in registory editor. |
| **shutdown** | The shutdown command is a Command Prompt command that powers off, restarts, logs off, or hibernates your computer. |
| **sysdm.cpl** | Opens System properties. |
| **syskey** | SysKey was removed on Windows 10 and Windows Server 2016, due to its use of cryptography considered insecure by modern standards, and its use as part of scams as a form of ransomware. |
| **taskmgr** | Opens Task Manager. |
| **timedate.cpl** | Opens time and date Setting’s window. |
| **utilman** | Opens Display’s Options. |
| **verifier** | Tells the Windows command line (cmd.exe) if it should verify the files are written correctly to a disk. |
| **wab** | Opens contact’s folder |
| **winver** | Winver is a command that displays the version of Windows that is running, the build number and what service packs are installed. |
| **wmplayer** | Opens Windows Media Player |
| **write** | Opens WordPad |
| **wscui.cpl** | The wscui. cpl run command is used to access security and maintenance. |

# **Задание 02. Команды CMD**

1. Исследуйте назначение следующих стандартных CMD-команд

|  |  |
| --- | --- |
| [**APPEND**](https://ab57.ru/cmdlist/append.html) | Allows programs to open data files in specified directories as if they were in the current directory. If used without parameters, append displays the appended directory list. |
| [**ATTRIB**](https://ab57.ru/cmdlist/attrib.html) | Using the ATTRIB command, you can change a file`s read/write attribute or set the archive attribute.  +R - Use the +R option to make a file read-only. Read-only files may be read but they can`t be changed or deleted.  -R - Use the -R option to change the file protection attribute back to normal (so it can be read, changed, or deleted).  +A - Use the +A option to set the ARCHIVE attribute of a file. When the +A option is used, this flags the file as available for archiving when using the BACKUP or XCOPY commands.  -A - Use the -A option to turn off the ARCHIVE attribute.  +H - With DOS Versions 4 through 6, use the +H option to set the HIDDEN attribute of a file so that it will not appear in a directory listing.  -H - Use the -H option to turn off the HIDDEN attribute.  +S - With DOS Versions after Version 4, use the +S option to set the SYSTEM attribute of a file. When the +S option is used, this flags the file as a command file used only by DOS. The file will not appear in a directory listing. This attribute is generally reserved for programmers.  -S - Use the -S option to turn off the SYSTEM attribute.  /S - Use the /S switch to set attributes on subdirectories found within the specified path. |
| [**Auditpol**](https://ab57.ru/cmdlist/auditpol.html) | Displays information about and performs functions to manipulate audit policies, including: Setting and querying a system audit policy. |
| [**BASH**](https://ab57.ru/cmdlist/bash.html) | The short answer is that when you type "bash" at a bash prompt, it starts a new bash process.  Bash is a program that reads command and executes them. It can read them from a file, or you can type them from an interactive prompt.  When you run a terminal, it's simply a window that runs bash in interactive mode, possibly reading some initialization code first. When you type "bash" at one of these prompts it simply starts another instance of the bash program (ie: another process), running "inside" the original bash program (process) running in the window. When you exit this new bash program, you will be returned to the original bash program where you can type more commands. |
| [**BCDBOOT**](https://ab57.ru/cmdlist/bcdboot.html) | BCDBoot is a command-line tool used to configure the boot files on a PC or device to run the Windows operating system. |
| [**BCDEDIT**](https://ab57.ru/cmdlist/bcdedit.html) | Boot Configuration Data (BCD) files provide a store that is used to describe boot applications and boot application settings.  BCDEdit is a command-line tool for managing BCD. It can be used for a variety of purposes, including creating new stores, modifying existing stores, and adding boot menu options. |
| [**BOOTCFG**](https://ab57.ru/cmdlist/bootcfg.html) | The Bootcfg command is used in the Recovery Console or command prompt of a compatible Windows OS and is used to either create or edit the boot.ini file that is used for selecting which OS to boot into as well as various other functions. Bootcfg as a command in Recovery console has different functions from bootcfg.exe’s commands available when run on the command prompt. Bootcfg is simply another tool for editing boot.ini specifically, since boot.ini can still be edited using text editors like Notepad if the permissions of the file have been changed. It can also be edited using MSCONFIG. Bootcfg has been replaced by BCDEdit in Windows Vista and later versions. |
| [**BOOTIM**](https://ab57.ru/cmdlist/bootim.html) | Calling boot and recovery menu |
| [**BOOTREC**](https://ab57.ru/cmdlist/bootrec.html) | The bootrec command is a Windows Recovery Environment command used to repair critical disk structures. |
| [**BOOTSECT**](https://ab57.ru/cmdlist/bootsect.html) | Bootsect.exe updates the master boot code for hard disk partitions to switch between Bootmgr and NT Loader (NTLDR). |
| [**BREAK**](https://ab57.ru/cmdlist/break.html) | Sets or clears extended CTRL+C checking on MS-DOS systems. |
| [**CACLS**](https://ab57.ru/cmdlist/cacls.html) | The cacls command enables a user to view and modify an ACL (access control list) of a file. |
| [**CALL**](https://ab57.ru/cmdlist/call.html) | Calling a subroutine or other command files from a batch file |
| [**CD**](https://ab57.ru/cmdlist/cd.html) | Change Directory |
| [**CHANGE**](https://ab57.ru/cmdlist/change.html) | используется для просмотра или изменения некоторых параметров сервера терминалов Terminal Services Windows (то серверное устройство или програмное обеспечение, которое позволяет множеству пользователей одновременно подключаться к серверу и выполнять команды и приложения на удаленных терминалах или компьютерах)  Контексты - LOGON, PORT, USER  Устарела |
| [**CHGLOGON**](https://ab57.ru/cmdlist/change.html) | Enables or disables logons from client sessions on an Remote Desktop Session Host server, or displays current logon status. |
| [**CHGPORT**](https://ab57.ru/cmdlist/change.html) | The chgport command can be used to display or change COM port mappings for DOS compatibility. |
| [**CHGUSR**](https://ab57.ru/cmdlist/change.html) | The chgusr command is used to change the install mode for the terminal server. |
| [**CHCP**](https://ab57.ru/cmdlist/chcp.html) | The chcp command is used to supplement the international keyboard and character set information, allowing MS-DOS to be used in other countries and with different languages. |
| [**CHKDSK**](https://ab57.ru/cmdlist/chkdsk.html) | CHKDSK (check disk) is a system tool or utility on Windows operating systems that scans your hard drive for file system errors. |
| [**CheckNetIsolation**](https://ab57.ru/cmdlist/checknetisolation.html) | CheckNetIsolation.exe is a diagnostic tool in Windows 8 that helps developers test, diagnose and troubleshoot a Windows Store app that requires network capabilities. |
| [**CHKNTFS**](https://ab57.ru/cmdlist/chkntfs.html) | The chkntfs command is used to display or modify the checking of the disk drive using NTFS at boot time. |
| [**CHOICE**](https://ab57.ru/cmdlist/choice.html) | choice is a command that allows for batch files to prompt the user to select one item from a set of single-character choices. |
| [**CLEARMGR**](https://ab57.ru/cmdlist/cleanmgr.html) | cleanmgr.exe is designed to clear unnecessary files from your computer's hard disk |
| [**CIPHER**](https://ab57.ru/cmdlist/cipher.html) | Cipher.exe is a built-in command-line tool in the Windows operating system that can be used to encrypt or decrypt data on NTFS drives. |
| [**CLIP**](https://ab57.ru/cmdlist/clip.html) | You can use this command to copy data directly into any application that can receive text from the Clipboard. |
| [**CMD**](https://ab57.ru/cmdlist/cmd.html) | Opens new cmd interpreter |
| [**CMDKEY**](https://ab57.ru/cmdlist/cmdkey.html) | Create, list or delete stored user names, passwords or credentials. |
| [**COLOR**](https://ab57.ru/cmdlist/color.html) | Changing color of cmd |
| [**COMP**](https://ab57.ru/cmdlist/comp.html) | Comp Command is a Microsoft Windows command for performing a bytewise comparison of the contents of different files. |
| [**COMPACT**](https://ab57.ru/cmdlist/compact.html) | The compact command is used to compress files to improve transferability, or uncompress them so that they are viewable. |
| [**CONVERT**](https://ab57.ru/cmdlist/convert.html) | Преобразование томов с файловой системой FAT и FAT32 в тома с файловой системой NTFS |
| [**COPY**](https://ab57.ru/cmdlist/copy.html) | The COPY command copies selected file items to another file, to the printer, or to the terminal. |
| [**Cscript**](https://ab57.ru/cmdlist/cscript.html) | Cscript.exe is the main executable for Windows Script Host (WSH). It is essentially the command-line version of the WSH service and facilitates command-line options for setting up script properties. With Cscript, scripts can be run automatically or by simply typing the name of the script file inside the command prompt. |
| [**DATE**](https://ab57.ru/cmdlist/date.html) | The date command displays or sets the date and time. |
| [**DEFRAG**](https://ab57.ru/cmdlist/defrag.html) | Defragmentation is the process that reduces the degree of fragmentation of a storage device to improve its performance. |
| [**DEL**](https://ab57.ru/cmdlist/del.html) | used to delete one or more files. |
| [**DevCon**](https://ab57.ru/cmdlist/devcon.html) | DevCon (DevCon.exe) is a command line tool that can display detailed information about devices on computers running Windows. |
| [**DIANTZ**](https://ab57.ru/cmdlist/makecab.html) | Compresses files without any loss (command has the same function as makecab). |
| [**DIR**](https://ab57.ru/cmdlist/dir.html) | The dir command displays information about files and directories, and how much disk space is available. |
| [**DISKCOMP**](https://ab57.ru/cmdlist/diskcomp.html) | Compares the content of two disks. |
| [**DISKCOPY**](https://ab57.ru/cmdlist/diskcopy.html) | Copies the content of a disk to another. |
| [**DISKPART**](https://ab57.ru/cmdlist/diskpart.html) | Manages, creates, and deletes partitions from the hard drive. |
| [**DISM**](https://ab57.ru/cmdlist/dism.html) | Manages and integrates Windows images. |
| [**DISPDIAG**](https://ab57.ru/cmdlist/dispdiag.html) | Creates a file in the current directory in which you’ll find information about your display. |
| [**DJOIN**](https://ab57.ru/cmdlist/djoin.html) | Creates a new computer account in the Active Directory Domain Services (AD DS). |
| [**DOSKEY**](https://ab57.ru/cmdlist/doskey.html) | Creates macros, recalls commands, and edits command input. |
| [**DRIVERQUERY**](https://ab57.ru/cmdlist/driverquery.html) | Creates a list with all installed drivers. |
| [**DxDiag**](https://ab57.ru/cmdlist/dxdiag.html) | This tool helps you troubleshoot DirectX\* related issues. Use the tool to generate a dxdiag text report file, which has detailed information about your computer's graphics, sound, and other devices. |
| [**ECHO**](https://ab57.ru/cmdlist/echo.html) | Displays a message and is mainly used within scripts and batch files. |
| [**EDIT**](https://ab57.ru/cmdlist/edit.html) | Starts the MS-DOS editor, with which you can create text files. |
| [**ENDLOCAL**](https://ab57.ru/cmdlist/endlocal.html) | Ends the valid range of changes to batch files or scripts. After the command, changes are applied to the entire system again (localization is started with setlocal). |
| [**ERASE**](https://ab57.ru/cmdlist/del.html) | Function is the same as del. |
| [**EVENTCREATE**](https://ab57.ru/cmdlist/eventcrt.html) | Creates an entry (ID and message) in an event log. |
| [**EXIT**](https://ab57.ru/cmdlist/exit.html) | Ends CMD.EXE or CMD.COM. |
| [**EXPAND**](https://ab57.ru/cmdlist/expand.html) | Extracts files and folders stored in CAB files. |
| [**EXTRACT**](https://ab57.ru/cmdlist/extrac32.html) | Extracts files and folders stored in CAB files (in new Windows versions use expand). |
| [**FC**](https://ab57.ru/cmdlist/fc.html) | Compares two individual files or two sets of files with one another and displays the differences. |
| [**FIND**](https://ab57.ru/cmdlist/find.html) | Searches through a file or multiple files for a particular character sequence. If you only want to know how frequently the word or phrase occurs, use the /C parameter. With the extension /I the command ignores upper- and lower-case in the search. |
| [**FINDSTR**](https://ab57.ru/cmdlist/findstr.html) | Finds character sequences in one or multiple files. It gives you more options when compared to the find command: you can search for files that contain various terms or with /C search for an exact word order. |
| [**FOR**](https://ab57.ru/cmdlist/for.html) | Sets a specific command that should be run for each individual file in a file set. This command is usually used in batch and script files. |
| [**FORFILES**](https://ab57.ru/cmdlist/forfiles.html) | Selects one or more files and runs a command that refers to these files. Usually used for batch and script files. |
| [**FORMAT**](https://ab57.ru/cmdlist/format.html) | Formats a drive to the file system specified by the user. |
| [**FSUTIL**](https://ab57.ru/cmdlist/fsutil.html) | Provides numerous features related to the file system, such as disk removal. |
| [**FTP**](https://ab57.ru/cmdlist/ftp.html) | Transfers data to an FTP server or from this to a PC. The command offers additional options: For example, you can activate debugging with -d. |
| [**FTYPE**](https://ab57.ru/cmdlist/ftype.html) | Specifies a program for opening a specific file type. |
| [**GETMAC**](https://ab57.ru/cmdlist/getmac.html) | Displays the MAC address of all network adapters. The format of the output (Table, List, CSV) is set with /FO. With /S you can use the command on remote systems as well. |
| [**GOTO**](https://ab57.ru/cmdlist/goto.html) | Skips the execution within a batch program to a specific line (marker). |
| [**GPRESULT**](https://ab57.ru/cmdlist/gpresult.html) | Displays information on the Group Policy. |
| [**GPUPDATE**](https://ab57.ru/cmdlist/gpupdate.html) | Updates information on the Group Policy. |
| [**HELP**](https://ab57.ru/cmdlist/help.html) | Displays help text for a specific command (you can also use the /? command). |
| [**HOSTNAME**](https://ab57.ru/cmdlist/hostname.html) | Outputs the name of the current host. |
| [**iCACLS**](https://ab57.ru/cmdlist/icacls.html) | Edits and displays the access control list. This sets access rights. An outdated version of this command is cacls. |
| [**IF**](https://ab57.ru/cmdlist/if.html) | Represents a conditional statement and executes expressions within batch files only under certain conditions. Can be extended by not if commands are only not to be executed under certain conditions. |
| [**IPCONFIG**](https://ab57.ru/cmdlist/ipconfig.html) | Provides information on the IP of each used network adapter. The command can also be used to release (/release) or renew (/renew) addresses. With /flushdns you can clear the DNS cache. |
| [**LABEL**](https://ab57.ru/cmdlist/label.html) | Changes or deletes a drive’s label. |
| [**LOGOFF**](https://ab57.ru/cmdlist/logoff.html) | Logs the user out of Windows. Also allows you to end sessions on servers. |
| [**MAKECAB**](https://ab57.ru/cmdlist/makecab.html) | Compresses files without loss in CAB format (you can also use the diantz command). |
| [**MD**](https://ab57.ru/cmdlist/md.html) | Creates a new directory on the specified path. If directories don’t already exist on the path, md creates them automatically (you can also use the mkdir command). |
| [**MKLINK**](https://ab57.ru/cmdlist/mklink.html) | Creates a symbolic link to a file. With /D you can also create connections to directories. Create a fixed connection instead of a symbolic connection with /H. |
| [**MODE**](https://ab57.ru/cmdlist/mode.html) | Configures system devices – primarily on the COM or LPT port. |
| [**MORE**](https://ab57.ru/cmdlist/more.html) | Outputs the content of a file (for example, a text file) by the page. You can also use the command to split the output of another command into pages. |
| [**MOUNTVOL**](https://ab57.ru/cmdlist/mountvol.html) | Creates and deletes mount points for drives and displays them. |
| [**MOVE**](https://ab57.ru/cmdlist/move.html) | Moves a file or multiple files from one directory to another. The command can also change the names of directories. By default, the command overwrites other files with the same name when moving files to the destination. To prevent this use the /-Y parameter. |
| [**MOVEFILE**](https://ab57.ru/cmdlist/movefile.html) | перемещение или удаление занятых файлов при следующей перезагрузке |
| [**MSG**](https://ab57.ru/cmdlist/msg.html) | Sends a message to another user. You can write the username into the command or create files in which usernames are saved. The files can then be included in the command with @filename. |
| [**MSTSC**](https://ab57.ru/cmdlist/mstsc.html) | MSTSC is the official command for Remote Desktop on Windows computers. The mstsc command can be used from the command prompt to perform special and specific tasks quickly along with parameters also called switches. Some switch example are: /v:computer: Specifies the remote computer to which you want to connect. |
| [**NBTSTAT**](https://ab57.ru/cmdlist/nbtstat.html) | Displays statistics and information on the TCP/IP connections on remote computers. |
| [**NET**](https://ab57.ru/cmdlist/net.html) | Configures and displays network settings. |
| [**NETCFG**](https://ab57.ru/cmdlist/netcfg.html) | Installs the minimal operating system Microsoft Windows PE. |
| [**NETSH**](https://ab57.ru/netcmd.html#id05) | Starts the network shell, which allows for network settings to be changed on local and remote computers. |
| [**NETSTAT**](https://ab57.ru/cmdlist/netstat.html) | Displays statistics and information on TCP/IP connections on the local computer. |
| [**NSLOOKUP**](https://ab57.ru/cmdlist/nslookup.html) | Sends a DNS query to a specific IP or host name on the preconfigured DNS server. You can also specify another DNS server. |
| [**OPENFILES**](https://ab57.ru/cmdlist/openfiles.html) | Displays and separates open system files and folders. |
| [**PATH**](https://ab57.ru/cmdlist/path.html) | Creates and displays the path for searching executable files. |
| [**PATHPING**](https://ab57.ru/cmdlist/pathping.html) | Provides information on forwarding and package loss when sending over a network and also specifies the latency. |
| [**PAUSE**](https://ab57.ru/cmdlist/pause.html) | Pauses execution in batch files and scripts. The user is then prompted in a message to continue by pressing a key. |
| [**PING**](https://ab57.ru/cmdlist/ping.html) | Sends an internet control message protocol echo request to a specific host to check if it’s accessible. The duration of the echo can also be specified. Ping signals can be sent continuously with -t. To display statistics on this action, press Ctrl + Brk. Cancel the process with Ctrl + C. |
| [**PNPUTIL**](https://ab57.ru/cmdlist/pnputil.html) | Installs plug-and-play devices from the command prompt. |
| [**POPD**](https://ab57.ru/cmdlist/popd.html) | Changes to the folder saved by the pushd command. The command is mainly part of batch files and scripts. |
| [**POWERCFG**](https://ab57.ru/cmdlist/powercfg.html) | Allows the user to change the computer’s energy options and control energy conservation plans. |
| [**PRINT**](https://ab57.ru/cmdlist/print.html) | Prints a text file. The device to be used for printing has to be specified. |
| [**PROMPT**](https://ab57.ru/cmdlist/prompt.html) | Changes the display of the command prompt. |
| [**PUSHD**](https://ab57.ru/cmdlist/pushd.html) | Saves a specific path into a script or batch file. You can change to this directory with popd. |
| [**PSR**](https://ab57.ru/cmdlist/psr.html) | Opens  problem steps recorder (psr) |
| [**QPROCESS**](https://ab57.ru/cmdlist/qprocess.html) | Provides information on running processes. |
| [**QUERY**](https://ab57.ru/cmdlist/query.html) | Displays the status of a particular service. |
| [**QUSER**](https://ab57.ru/cmdlist/quser.html) | Provides information on the currently logged-in users. |
| [**RD**](https://ab57.ru/cmdlist/rd.html) | Deletes a directory. This must not contain any files, even hidden ones. You can delete an entire directory tree with the /S parameter (you can also use the rmdir command). |
| [**REAGENTC**](https://ab57.ru/cmdlist/reagentc.html) | Configures the Windows recovery environment, with which you can repair the installation of the operating system. |
| [**RECOVER**](https://ab57.ru/cmdlist/recover.html) | Restores readable files that were on a defective data drive. |
| [**REG**](https://ab57.ru/cmdlist/reg.html) | Manages the registry of the command prompt. Users can create new keys (reg add) or delete them (reg delete). |
| [**REGEDIT**](https://ab57.ru/cmdlist/regedit.html) | Regedit or regedit.exe is a standard Windows executable file that opens the built-in registry editor. This allows you to view and edit keys and entries in the Windows registry database. |
| [**REGSVR32**](https://ab57.ru/cmdlist/regsvr32.html) | Registers a DLL file in the registry. |
| [**REGINI**](https://ab57.ru/cmdlist/regini.html) | Changes registry authorizations. |
| [**REM**](https://ab57.ru/cmdlist/rem.html) | Writes comments in batch and script files that aren’t taken into account when executing. |
| [**RENAME (REN)**](https://ab57.ru/cmdlist/rename.html) | Changes the name of a particular file. Directory and drive cannot be changed this way (or use the rename command). |
| [**REPLACE**](https://ab57.ru/cmdlist/replace.html) | Replaces the selected file or files with one or more other files. With /S files in subfolders are also replaced. With the addition /U files are only replaced if another version is more current. The parameter /A allows users to add new files to the target directory at the same time. This parameter is not compatible with /S and /U. |
| [**RMDIR**](https://ab57.ru/cmdlist/rd.html) | Deletes a directory. This must not contain any files, even hidden ones. You can delete an entire directory tree with the /S parameter (you can also use the rd command). |
| [**ROUTE**](https://ab57.ru/cmdlist/route.html) | Displays routing tables and makes it possible to change, add, or delete entries |
| [**RUNAS**](https://ab57.ru/cmdlist/runas.html) | Allows a user to run commands with the rights of another user. For example, you can run a command as an administrator from a normal user account as long as you know the password. |
| [**RUNDLL32**](https://ab57.ru/cmdlist/rundll32.html) | Rundll32 provides “string invocation,” which lets you execute a command buried in a Dynamic Link Library (DLL) file. Rundll32 accepts the following options: filename. The filename of a DLL ( . dll ) file. |
| [**SC**](https://ab57.ru/cmdlist/sc.html) | Manages services by connecting to the Service Controller. |
| [**SCHTASKS**](https://ab57.ru/cmdlist/schtasks.html) | Sets the execution of specified programs and commands for a specified point in time. You can create, delete, change, and display all scheduled tasks. |
| [**SCLIST**](https://ab57.ru/cmdlist/sclist.html) | The SCLIST command displays the command lists that you can run against one or more of the displayed resources. |
| [**SET**](https://ab57.ru/cmdlist/set.html) | Displays environmental variables of CMD.EXE and lets you configure them. |
| [**SETLOCAL**](https://ab57.ru/cmdlist/setlocal.html) | Limits the valid range of changes to batch files or scripts. After the command, changes only apply to these files (localization is started with endlocal). |
| [**SETX**](https://ab57.ru/cmdlist/setx.html) | Creates or changes environmental variable in the user of system environment. |
| [**SFC**](https://ab57.ru/cmdlist/sfc.html) | Checks all important and protected system files. Incorrect versions are replaced by correct ones. |
| [**SHIFT**](https://ab57.ru/cmdlist/shift.html) | Moves variables within batch files and scripts. |
| [**SHUTDOWN**](https://ab57.ru/cmdlist/shutdown.html) | Shuts down the computer (/s), triggers a restart (/r), or logs the user out (/l). A graphical user interface is displayed if you enter the parameter /I as the first option in the command. |
| [**SLEEP**](https://ab57.ru/cmdlist/sleep.html) | The “sleep” command is used to add delay in some processes but unfortunately sleep or delay commands do not support windows operating systems. |
| [**SORT**](https://ab57.ru/cmdlist/sort.html) | Lists out data (from a file or command) and outputs it again sorted – directly in the command prompt, in a new file, or in another output. |
| [**START**](https://ab57.ru/cmdlist/start.html) | Opens a new command prompt window in which you can run a specific program or command. |
| [**STORDIAG**](https://ab57.ru/cmdlist/stordiag.html) | StorDiag.exe is a new command line drive tool to analyze storage on devices running Windows 10 that Microsoft added silently to the Anniversary Update. The program is a diagnostic tool that you may use to identify storage related issues. |
| [**SUBST**](https://ab57.ru/cmdlist/subst.html) | Assigns a drive letter to a path to create a virtual drive. |
| [**SYSTEMINFO**](https://ab57.ru/cmdlist/systeminfo.html) | Displays information about the Windows installation, including all installed service packages. The information can be obtained from the local system as well as a remote computer. |
| [**TAKEOWN**](https://ab57.ru/cmdlist/takeown.html) | Restores administrator access rights to a file that have been lost when reassigning a user. |
| [**TAR**](https://ab57.ru/cmdlist/tar.html) | Tar: A command line tool that allows a user to extract files and create archives. Outside of PowerShell or the installation of third party software, there was no way to extract a file from cmd.exe. |
| [**TASKKILL**](https://ab57.ru/cmdlist/taskkill.html) | Ends one or more running tasks. You either have to specify the process ID (PID) or image name. |
| [**TASKLIST**](https://ab57.ru/cmdlist/tasklist.html) | Lists all running processes – also on remote computers, if desired. The process ID also has to be specified, which is required for the taskkill command, for example. |
| [**TIME**](https://ab57.ru/cmdlist/date.html) | Displays the current time and allows it to be changed. If the parameter /T is entered, the command prompt only shows the time and offers no option to directly change it. |
| [**TELNET**](https://ab57.ru/cmdlist/telnet.html) | Enables communication with another computer that also uses the telnet protocol. |
| [**TFTP**](https://ab57.ru/cmdlist/tftp.html) | Enables a file exchange between the local computer and a server that supports the Trivial File Transfer Protocol (TFTP). To use the command, the TFTP client first needs to be enabled in the system settings. |
| [**TIMEOUT**](https://ab57.ru/cmdlist/timeout.html) | Stops a process for a specified time. |
| [**TITLE**](https://ab57.ru/cmdlist/title.html) | Changes the title of the command prompt. |
| [**TRACERT**](https://ab57.ru/cmdlist/tracert.html) | Tracks a data package on the way through the network to a server. It doesn’t only check whether the package arrives and how long it takes, but also records how many hops the package makes on the way. All packages have a set time-to-live (TTL), which is increased gradually with the command. |
| [**TREE**](https://ab57.ru/cmdlist/tree.html) | Graphically displays the directory structure of a drive or path. |
| [**TSCON**](https://ab57.ru/cmdlist/tscon.html) | Connects the current local user session with a session on a remote computer. |
| [**TSDISCON**](https://ab57.ru/cmdlist/tsdiscon.html) | Ends the connection between a local user session and a session on a remote computer. |
| [**TSKILL**](https://ab57.ru/cmdlist/tskill.html) | Ends a process on a remote computer. |
| [**TYPE**](https://ab57.ru/cmdlist/type.html) | Displays the content of a text file. |
| [**TZUTIL**](https://ab57.ru/cmdlist/tzutil.html) | Displays the currently set time zone (/g) or changes it (/s). The parameter /l helps determine the valid time zones. |
| [**VER**](https://ab57.ru/cmdlist/ver.html) | Displays the current version number of Windows or MS-DOS. |
| [**VERIFY**](https://ab57.ru/cmdlist/verify.html) | When enabled, checks whether files are written correctly on a data drive. The check is disabled in the standard settings. |
| [**VOL**](https://ab57.ru/cmdlist/vol.html) | Displays the label and serial number of a drive. |
| [**VSSADMIN**](https://ab57.ru/cmdlist/vssadmin.html) | Manages the volume shadow copy services that can be used to store different versions (snapshots) of drives. |
| [**W32TM**](https://ab57.ru/cmdlist/w32tm.html) | Manages the Windows time service that synchronizes dates and times on all computers that share an AD DS domain. |
| **WAITFOR** | Sends or waits on a single. If the signal is only supposed to be sent to specified computers in a domain instead of all, use the /S parameter. Computers within a network are synchronized with one another through this command. |
| [**WBADMIN**](https://ab57.ru/cmdlist/wbadmin.html) | Creates backups of the operating system and delivers information to the created backup copies. |
| [**WEVTUTIL**](https://ab57.ru/cmdlist/wevtutil.html) | Manages event logs and event log files. |
| [**WHERE**](https://ab57.ru/cmdlist/where.html) | Finds files that match a particular search topic. The placeholders \* and ? can be used within the topic. |
| [**WHOAMI**](https://ab57.ru/cmdlist/whoami.html) | Provides information about the current user. With the /GROUP parameter you can obtain additional information about group membership. |
| [**WINDIFF**](https://ab57.ru/cmdlist/windiff.html) | The Windiff.exe utility graphically illustrates the differences between ASCII text files that you specify, or the difference between folders that contain ASCII text files, and is especially useful for comparing program source code. You can use Windiff.exe to compare whole subfolder trees. |
| **WINRM** | Manages secure connections between local and remote computers via the WS management protocol. |
| **WINRS** | Enables access to the command line of a remote computer via a secure connection to implement changes. If you want to disable encryption, use -un. |
| [**WINSAT**](https://ab57.ru/cmdlist/winsat.html) | Evaluates various system factors – for example, processor performance or graphical capabilities. |
| [**WMIC**](https://ab57.ru/cmdlist/wmic.html) | Starts the Windows Management Instrumentation in the command prompt. Various Windows settings can be changed here – both locally and on remote computers. |
| [**WSCollect**](https://ab57.ru/howto/wscollect.html) | получить CAB-файл с копиями журналов Windows 10 на рабочем столе |
| [**Wscript**](https://ab57.ru/cmdlist/wscript.html) | Windows Script Host provides an environment in which users can execute scripts in various languages that use various object models to perform tasks. |
| [**WSL**](https://ab57.ru/cmdlist/wslcmd.html) | The Windows Subsystem for Linux (WSL) lets you run a Linux environment, including command-line tools and applications, directly on Windows, without the overhead of a traditional virtual machine or dual boot setup. |
| [**WSLconfig**](https://ab57.ru/cmdlist/wslconfig.html) | The wsl.conf and .wslconfig files are used to configure advanced settings options, on a per-distribution basis ( wsl.conf ) and globally across all WSL 2 distributions ( .wslconfig ). |
| [**XCOPY**](https://ab57.ru/cmdlist/xcopy.html) | Copies files and entire directory structures. In this way, the command offers various additional options. For example, it can be specified that only files younger than a specific date (/D) should be copied. It can also be specified that read-only files are overwritten (/R). |

# **Задание 03. Переменные среды Windows**

|  |  |
| --- | --- |
| **ALLUSERSPROFILE** | В режиме работы под локальным пользователем система возвратит место размещения всех каталогов профилей пользователей (путь папки All Users, например C:\Documents and Settings\All Users). |
| **APPDATA** | В режиме работы под локальным пользователем система возвратит место на диске, где приложения сохраняют свои данные по умолчанию (например C:\Documents and Settings\имяпользователя\Application Data). |
| **CD** | В режиме работы под локальным пользователем система возвратит строку, где будет путь до текущей директории |
| **CLIENTNAME** | Переменная определена только в среде удаленного подключения к рабочему столу. Хранит имя компьютера (%COMPUTERNAME%) клиента удаленного доступа. |
| **CMDCMDLINE** | Переменная определена только в среде удаленного подключения к рабочему столу. Хранит имя компьютера (%COMPUTERNAME%) клиента удаленного доступа. |
| **CMDEXTVERSION** | Система вернет номер версии текущих расширений интерпретатора команд (Command Processor Extensions). |
| **COMMONPROGRAMFILES** | Расположение каталога "Common Files" в Program Files (x86) для 64-разрядной ОС (обычно %ProgramFiles(x86)%\Common Files). |
| **COMMONPROGRAMFILES(x86)** | Расположение каталога "Common Files" (обычно %ProgramFiles%\Common Files). |
| **COMPUTERNAME** | Система возвратит имя компьютера (оно используется для идентификации компьютера в локальной сети). |
| **COMSPEC** | Система вернет полный путь до исполняемого файла интерпретатора команд |
| **DATE** | Система вернет текущую дату. |
| **ERRORLEVEL** | Система вернет код ошибки последней используемой команды. Значение кода, не равное 0 обычно показывает какую-то ошибку. |
| **HOMEDRIVE** | Система покажет букву диска, который связан с домашней директорией пользователей. Эта переменная устанавливается на базе значения домашней директории, где находятся профили пользователей (пользователи и группы управляются оснасткой Local Users and Groups, Локальные пользователи и группы). |
| **HOMEPATH** | Система вернет полный путь до домашнего каталога текущего пользователя (user's home directory). Эта переменная устанавливается на базе значения домашней директории. |
| **HOMESHARE** | Система вернет сетевой путь до совместно используемой домашней директории пользователя (user's shared home directory). Эта переменная устанавливается на базе значения домашней директории. |
| **LOCALAPPDATA** | Возвращает используемое по умолчанию локальное размещение данных приложений (C:\Users\%UserName%\AppData\Local). |
| **LOGONSERVER** | Предоставляет название контроллера домена, осуществляющего проверку подлинности заданной сессии |
| **NUMBER\_OF\_PROCESSORS** | Определяет количество процессоров, которыми обладает конкретное устройство |
| **OS** | Передает информацию о том, каким именем обладает ОС на конкретном устройстве. Существуют определенные особенности отображения названия для некоторых типов ОС и это необходимо учитывать |
| [**PATH**](https://ru.wikipedia.org/wiki/PATH_(%D0%BF%D0%B5%D1%80%D0%B5%D0%BC%D0%B5%D0%BD%D0%BD%D0%B0%D1%8F)) | Устанавливает путь поиска для того, чтобы обнаруживать программы |
| **PATHEXT** | Предоставляет перечень расширений документов, учитываемых ОС в качестве исполняемых |
| **PROCESSOR\_ARCHITECTURE** | Используется в тех случаях, когда необходимо получить архитектуру определенного процессора |
| **PROCESSOR\_IDENTIFIER** | Предоставляет короткую информацию о процессоре |
| **PROCESSOR\_LEVEL** | Предоставляет данные о номере модификации процессора |
| **PROCESSOR\_REVISION** | Система вернет номер ревизии процессора. |
| **PROGRAMDATA** | Возвращает путь к каталогу C:\ProgramData\ |
| **PROGRAMFILES** | Путь к каталогу Program Files. |
| **PROGRAMFILES(x86)** | Путь к каталогу Program Files (x86) в 64-разрядных системах для приложений архитектуры x86. |
| **PROMPT** | Позволяет выполнить предоставление параметров КА для действующего интерпретатора. Для получения доступа, необходимо воспользоваться Cmd.exe |
| **RANDOM** | Предоставляет любое целое число в диапазоне 0-32767 включительно |
| **SAFEBOOT\_OPTION** | Существует только в Безопасном режиме. Принимает значение типа безопасного режима(загружает только минимальный набор драйверов и служб, чтобы избежать конфликтов и проблем, которые могли бы возникнуть при нормальной загрузке) в котором работает система. В Безопасном режиме и Безопасном режиме с поддержкой командной строки принимает значение MINIMAL. В Безопасном режиме с поддержкой сетевых драйверов принимает значение Network. |
| **SESSIONNAME** | Хранит имя активного пользовательского сеанса. При локальном входе имеет значение "Console", при удаленном доступе имеет вид RDP-Tcp#<номер сеанса> |
| **SYSTEMDRIVE** | Выполняет предоставление названия диска, на который записан корневой каталог ОС Windows XP |
| **SYSTEMROOT** | Предоставляет место расположения системного каталога ОС |
| **TEMP и TMP** | Данные переменные являются системной и пользовательской. Это позволяет осуществить исполнение одинаковых задач при различных ситуациях. Предоставляет временные папки, воспользоваться которыми могут все юзеры. Для определенных программ нужно использовать TEMP или TMP. |
| **TIME** | Предоставляет сведения о времени на данный момент. Применяется аналогичный time /t формат отображения. |
| **USERDOMAIN** | Предоставляет название домена, который обладает перечнем учетных записей юзеров |
| **USERNAME** | Предоставляет имя юзера, осуществившего вход в систему |
| **USERPROFILE** | Осуществляет возврат положения аккаунта для текущего юзера |
| **WINDIR** | Позволяет осуществить возврат каталога ОС |