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 **Smart Pentamino**

Smart Pentamino is a software imitation of a logical table game. The aim of the game is to assemble a picture of a given form, using 12 unique elements of pentamino, each of 5 squares. A player can assemble pictures, get hints (in case of difficulties) or see all the solutions. One can draw up pictures by oneself and group them into libraries. For any picture the software can find all the solutions pretty quickly.

 **Menus**

For information about Smart Pentamino menu commands, choose a menu topic.

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 **File Menu**

Use the File menu to open and save new or existing player files and libraries, and to display player statistic.

The commands on the File menu are:

<u>Select Player</u>	Creates a new or loads an existing player file
<u>Player Solutions</u>	Displays the Player Solutions dialog box
<u>New Library</u>	Creates a new library
<u>Open Library</u>	Loads an existing library
<u>Save Library</u>	Saves the current library using its current name
<u>Save Library as</u>	Saves the current library using a new name
<u>Manage Library</u>	Saves the current library using a new name
<u>Exit</u>	Saves the current library and exits Smart Pentamino

 **Puzzle Menu**

Use the commands from the Puzzle menu to work with board and puzzles at library.

The commands on the Puzzle menu are:

<u>Test Board State</u>	Tests elements on the board to corresponding one of solutions of puzzle
<u>Puzzle Solutions</u>	Displays the Puzzle Solutions dialog box
<u>Select Puzzle</u>	Displays the Select Puzzle dialog box
<u>Clear Board</u>	Clears the board from elements of pentamino
<u>Center Figure</u>	Moves figure to center of the board (enabled in the Edit mode only)
<u>Board Size</u>	Sets size of the board (enabled in the Edit mode only)

 **Mode Menu**

Use the commands from the Mode menu to select the Play or the Edit mode.

The commands on the Mode menu are:

<u>Play</u>	Sets the Play mode
<u>Edit Figure</u>	Sets the Edit mode

 **Help Menu**

Use the Help menu to access the online Help system, which displays in a special Help window.

The commands on the Help menu are:

Contents

Opens the Smart Pentamino Help file

About

Displays a copyright and version number for Smart Pentamino

 **File | Select Player**

Choose File|Select Player to display the Select Player dialog box.

Select Player Dialog Box

Use the Select Player dialog box to load an existing player statistic file into Smart Pentamino. If you enter the name of a file that does not exist, Smart Pentamino creates a new player statistic file.



File | Player Solutions

Choose File| Player Solutions to display the Player Solutions dialog box.

Player Solutions Dialog Box

Use this dialog box to view the player statistic. This statistic includes all puzzles and all their solutions which are found by current player.

Puzzles: m/n

m - number of the current selected puzzle

n - total number of all puzzles resolved by player

Player Info Button

Click this button to display the [Player Info](#) dialog box

Merge Button

Click this button to display the [Merge Solutions from Player File](#) dialog box

Solutions Button

Click this button to display the [Puzzle Player Solutions](#) dialog box

Player Info Dialog Box

Use the Player Info dialog box to changing information about player statistic. Smart Pentamino stores you changes in the player statistic file when you choose the OK button in this dialog box.

To open this dialog box,

Click the Player Info button in the Player Solutions dialog box.



Merge Solutions from Player File Dialog Box

Use the Merge Solutions from Player File dialog box to add all statistic to current player statistic from another file. Smart Pentamino stores you changes in the player statistic file when you choose the OK button in this dialog box.

To open this dialog box,

Click the Merge button in the Player Solutions dialog box.

Puzzle Player Solutions Dialog Box

Use the Puzzle Player Solutions dialog box for displays all solutions of the current puzzle which are found by player.

To open this dialog box,

Click the Solutions button in the Player Solutions dialog box.

 **File | New Library**

Choose File| New Library to create a new Smart Pentamino library.

 **File | Open Library**

Choose File|Open Library to display the Open Library dialog box.

Open File Dialog Box

Use the Open Library dialog box to load an existing library into the Smart Pentamino.

 **File | Save Library**

Choose File|Save Library to store the current library using its current name.

If you try saving a library that has not been previously saved, Smart Pentamino opens the Save Library as dialog box, where you enter the new file name.

 **File | Save Library as**

Choose File|Save Library as to display the Save Library as dialog box.

Save Library as Dialog Box

Use the Save Library as dialog box to change the current library name or to save the library in a new location. If the file name already exists, Smart Pentamino asks if you want to replace the existing file.

 **File | Manage Library**

Choose File|Manage Library to display the Manage Library dialog box.

Manage Library Dialog Box

Use the Manage Library dialog box to manage a current library. This dialog displays all puzzles of the current library. Each puzzle has a name and brief statistic information which consists from amount of founded solutions and average difficulty of a solution search.

Puzzles: m/n

m - number of the current selected puzzle

n - total number of all puzzles in the library, limited by 24

Library Info Button

Click this button to display the [Library Info](#) dialog box

Merge Button

Click this button to display the [Merge Library](#) dialog box

Calculation Button

Click this button to display the [Puzzle Solution](#) dialog box

Rename Button

Click this button to change the name of the current puzzle at library.

Add

Click this button to add a new empty puzzle at library.

Del

Click this button to delete the current puzzle from library.

Duplicate

Click this button to make copy of the current puzzle at the end of library.

Move to prev

Click this button to move the current puzzle to previous position at library.

Move to next

Click this button to move the current puzzle to next position at library.

Merge Library Dialog Box

Use the Merge Library dialog box to add all puzzles and all their solutions to the current library from another one.

To open this dialog box,

Click the Merge button in the Manage Library dialog box.



Calculation Puzzle Solutions Dialog Box

Use the Calculation Puzzle Solutions dialog box to display and calculate all solutions of the puzzle(s) at library.

To open this dialog box,

Click the Calculation button in the Manage Library dialog box.

Use scroll bar to selecting of required solution.

Calc Button

Click the Calc button to find solutions of the puzzle(s) by computer.

Clear Button

Clears all solutions of the current puzzle.

Puzzle Statistic

Displays some information about the puzzle and its solutions.

Options	What It Displays
Solution: m of n	m - number of the current solution n - total number of solutions of the current puzzle
Library name	the name of current library
Puzzle name	the name of selected puzzle
Puzzle: m/n	m - number of the selected puzzle n - total number of all puzzles in the library
Status: m	the status displays current condition of calculation. m - amount of founded solutions
Difficulty	Difficulty of all solutions search by computer
Average	Average difficulty of solutions search by computer

Calc options

Check Box	When Checked
First solution only	Calculates only first solution of the puzzle(s).
All puzzles	Does calculation to all puzzles of the current library.

Board Update Options

Option	Effect
Every solution	Displays every completed solution only.
Always	Displays every calculated step (every placing and removing of pentamino elements).

Library Info Dialog Box

Use the Library Info dialog box to view and change information about the current library.

To open this dialog box,

Click the Library Info button in the Manage Library dialog box.

 **File | Exit**

Choose File|Exit to save the current library and then close Smart Pentamino.

If you exit Smart Pentamino before saving your changes at library, Smart Pentamino asks you if you want to save them.

Puzzle | Test Solution

Choose Puzzle|Test Solution to test all elements on the board to corresponding one of solutions of the puzzle.

Test Solution Message: Figure is invalid.

The cages number of the figure is not equal 60. This figure can not have a solution.

Test Solution Message: Puzzle board is empty. Please place elements to the board.

There are nothing of pentamino elements on board for test. But the figure is correct. You may place elements to the board and check its positions for corresponding solutions of the puzzle now.

Test Solution Message: Puzzle board contains out of figure elements.

Some elements on the board is out of figure. This is not a solution, of course!

Test Solution Message: Puzzle board contains invalid elements.

The figure does not have a solution because some groups of cages not short-dated by 5.

Test Solution Message: Puzzle is not full calculated. Please calc puzzle.

The solutions of the figure is unknown. You must calculate the all solutions of the puzzle at first to use Puzzle|Test Board State help. Use Calculation button in the Manage Library dialog box to calculation all solutions.

Test Solution Message: Your solution is invalid.

Some elements on the board are place on incorrect positions. You must move them to another positions if you want to find a solution of the puzzle.

Test Solution Message: You solution is correct.

All elements on the board corresponds one of solutions of the puzzle. You is on a right way!

Puzzle Solutions Dialog Box

Choose Puzzle| Puzzle Solutions or click the Solutions button in the Select Puzzle dialog box to display the Puzzle Solutions dialog box.

Puzzle Solutions Dialog Box

Use the Puzzle Solutions dialog box to display all solutions of the puzzle(s) at library.



Puzzle | Select Puzzle

Choose Puzzle|Select Puzzle to display the Select Puzzle dialog box.

Select Puzzle Dialog Box

Use this dialog box to view the library. Library includes all puzzles and all their solutions which are found by computer. Each puzzle has a name and brief statistic information which consists from amount of founded solutions and average difficulty of a solution search.

Puzzles: m/n

m - number of the current selected puzzle
n - total number of all puzzles in the library

Library Info Button

Click this button to display the [Library Info](#) dialog box

Solutions Button

Click this button to display the [Puzzle Solution](#) dialog box

Library Info Dialog Box

Use the Library Info dialog box to view information about the current library.

To open this dialog box,

Click the Info button in the Select Puzzle dialog box.

 **Puzzle | Clear Board**

Choose Puzzle|Clear Board to remove all elements of pentamino from the board.

 **Puzzle | Center Figure**

Choose Puzzle|Center Figure to move figure to center of the board.

 **Puzzle | Board Size**

Choose Puzzle|Board Size to set size of the board. The size of the board may be 24x24 or 32x32. You may use this choice in the Edit mode only.

 **Mode | Play**

Choose Mode|Play to set the Play mode. You may set elements of pentamino on the board, move, rotate and remove its from the board.

 **Mode | Edit**

Choose Mode|Edit to set the Edit mode. You may edit a figure by use a mouse. Use left button to draw, right button to clear figure points.

 **Help | About**

Choose Help|About to display the About Smart Pentamino dialog box.

About Smart Pentamino Dialog Box

Use About Smart Pentamino dialog box to displays copyright and version information, for get Registration Information and for display Register Dialog Box.

 **Register Dialog Box**

Use the Register dialog box to register shareware version of Smart Pentamino.

To open this dialog box,

Click the Register button in the About Smart Pentamino dialog box. This dialog box is available in unregistered version only.



Registration Information

This program is released as shareware.

The shareware version is full functional, but does not allow to use a puzzle library contained more than 3 puzzles.

If you want to register your copy of Smart Pentamino pay \$10 in U.S. funds to the authors by any ways which described below.

Registered users will receive registration code which allows to use any puzzle libraries.

To register online with your credit card, go to:

<https://www.setsystems.com/cgi-bin/buy-pentamino>

To more information see readme.txt.



Game Field

Choose the Game Field in the Contents of Smart Pentamino Help to get this information.

Game Field

The Game Field included the Info Panel, the Play Board, the Variants and the Store.

Info Panel

Shows information at the top of the Game Field that help you use Smart Pentamino. Provides some statistics which describe below:

Library

Displays the name of the current library.

Player

Displays the name of the current player file.

Puzzle

Displays the name of the puzzle at the Play Board.

Status

Displays the current mode and some following information:

Play, n/m

n - the number of puzzle solutions founded by user

m - the total number of puzzle solutions, if not all solutions are found by computer then question mark (?) place at right of number

Edit, n/m

n - the number of squares at figure

m - the number of squares which must be at any figure

Play Board

Use the Play Board for solve puzzle and edit figure.

Variants

Use the Variants to select necessary variety of the pentamino element.

Store

Use the Store to get necessary pentamino element for arrangement at the Play Board and for store spare pentamino elements.

 **Control**

Use mouse to drag and drop pentamino elements over the Play Board, from the Store to the Play Board and back.

Use left mouse button to put down pentamino element on the Play Board or on the Store.

Use right mouse button to select necessary variety of the pentamino element in cycle order or Shift+right mouse button for back cycle order.

Use Ctrl+mouse to work with pentamino elements in the Edit mode.

