Contents for X-ray help

X-ray is a game where you must determine the location of a set of objects within a closed box by observing the behavior of X-rays launched into the edges of the box.

To learn how to use HELP, press F1.

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What is X-ray?

You have been given a closed box containing a set of objects.   You can not see into the box, you must examine it by launching X-rays into the edges and observing their behavior.   Your goal is to find the exact location of each of these objects as quickly as possible using as few X-rays as possible.

There are three observable behaviors for the X-rays.   Note that the dotted X-ray trail is added for illustration and is not shown during the game.
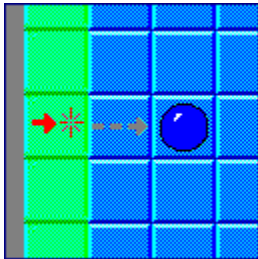
1. Hit.   An X-ray that hits an object does not exit the box.
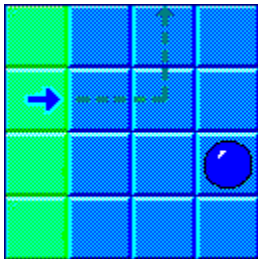
2. Deflect.   The X-ray exits the box at some other point. The X-ray may have bounced off one or more objects or may have missed them entirely.   An X-ray bounces off the near corner of an object and continues at a 90 degree angle.
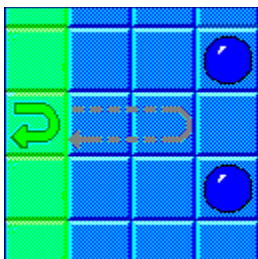
3. Reflect.   The X-ray exits the box at the same point it entered.   This is a special case of multiple deflections.

Note that an X-ray may deflect several times before hitting an object or exiting the box.   X-rays collide only with objects within the box, NOT with other X-rays or the box itself.

See the Play the game section for more details.

Starting a new game
From the Game menu, choose New.   A new box will be generated with a set of randomly placed objects inside.

Launching X-rays
X-rays are launched by clicking with the left mouse button in one of the green edge areas on any size of the box.   The edge square will then indicate the behavior of that X-ray.   If a deflection occurs, another edge square will indicate the X-ray's exit point.

Mark locations where you think the objects are hidden by clicking with the left mouse button in a square within the blue box.   See Mark Locations for additional information on marking.

Keeping Score
You start the game with 4000 points.   Each X-ray costs 100 points. Each second of play costs 5 points. The timer starts when you launch your first X-ray. If you run out of points, the game ends.

Stopping the game
When all of the object locations have been correctly marked the game will stop.

If you would like to quit the current game, from the Game menu, choose Stop. The game will be abandoned and the location of the objects will be revealed.

Stopping the game after launching one or two X-rays can be a good way to familiarize yourself with the behavior of the X-rays.

Choosing Exit from the Game menu will abandon the current game and close the X-ray application.

See the Interpret X-ray behavior section for more details on X-ray behavior.

Interpreting X-ray behavior

X-rays travel in a straight line through the box unless they hit an object or come within one square to the side of an object.   An X-ray that attempts to pass within one square will instead be deflected by 90 degrees.   The X-ray continue in the new direction until it exits the box or encounters another object.
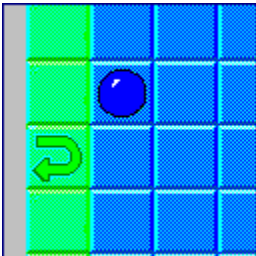
The following additional examples should help to show how X-rays behave.
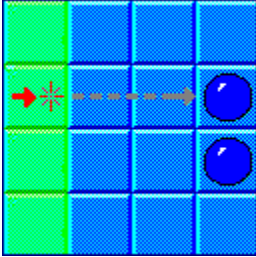
 Since an X-ray's basic tendency is to travel in a straight line, an X-ray hits an object directly in front of it without being deflected by the second object.
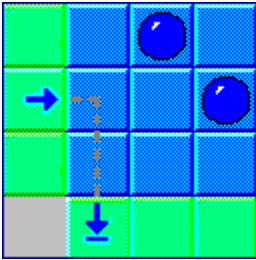
 Here the X-ray is deflected since the object straight ahead is still two squares away.

 This X-ray is deflected before entering the box.   Since the X-ray remains in the same square it is labeled as a REFLECTION.

Marking Locations

Locations within the box may be marked by clicking with the left mouse button.   The first click will mark the location with an object.   The second click will mark the location with a question mark.   Clicking a third time will cycle back to an empty square.

If all object marks have been used, additional squares will only be able to be marked with a question mark.

When all objects have been correctly marked, the game is over.

Commands

Game menu commands
    New   - Start a new game.
    Stop   - Surrender game and display object locations.
    Exit   - Close the X-ray application.

Option menu commands
    Settings   - Set the number of objects.
    Timer   - Toggle the timer on/off.
    Sound   - Toggle the sound on/off.

    A Windows compatible sound card is required for sounds to work.

This marker indicates a Hit. X-ray travels in a straight line and hits a hidden object.

This marker indicates a DEFLECTION.   The X-ray bounces off the nearest corner of the hidden object at a 90 degree angle.

This marker indicates a REFLECTION.   The X-ray deflects off the first hidden object, and then immediately is deflected a second time, sending the X-ray back on the same path.

X-ray's tendency to travel in straight line causes it to hit the object directly in front of hit without being deflected.

X-ray bounces off the nearest corner of the hidden object at a 90 degree angle.

X-ray is deflected back into the entry square before entering the box and thus is a REFLECTION.

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Please report any suggestions, problems, or (gasp) bugs to me at...

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This program was created using Borland Turbo C++ Visual Edition for Windows, version 3.1. If you would like to alter or enhance this program, a copy of the source files for this program is available.   Contact the author for details.