Defuse the Bomb

A CSC 201 Project

Team: Pacman

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MANUAL  
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Version 1

The Game

This project is inspired by the game **Pacman,** a classic 1980 maze video game. You and your friends must complete all of the phases and defeat Pacman in order to defuse the bomb. Put your puzzle-solving skills to the test as you and your friends race to defuse the bomb quickly before time runs out.

Defusing The Bomb

The bomb will “explode” in one of two scenarios: one, when its countdown reaches 0:00 or two, if you fail to complete the game of Pacman. You defuse the bomb by disarming all its phases before the countdown expires.

Phases

The bomb has four phases, each of which must be disarmed to defuse the bomb. The first three phases can be disarmed in any order and completion of those 3 will unlock the fourth and final phase. Once a phase is disarmed, it becomes inactive and changing it doesn’t affect the bomb. Instructions for disarming the phases are provided in this document.

Regarding the Toggles

This next phase will test your knowledge of Pacman through a series of questions. Flip ON for True, and OFF for false. The toggles are numbered from left to right as seen in the images below. The toggle is off if it is flipped down with the light off as seen in image one. And the toggle is considered on if it is flipped up with the light on, as seen in image two.

|  |  |
| --- | --- |
| Toggle Number | True or False |
| #1 | Pac-Man’s original name was ‘Puck Man’ |
| #2 | The red ghost always chases Pac-Man directly |
| #3 | There are five different ghosts chasing Pac-Man |
| #4 | Pac-Man was released in 1980 |

A group of red switches on a board

AI-generated content may be incorrect.A group of red switches

AI-generated content may be incorrect.



Regarding the Button

The button changes fast. Follow the instructions below to avoid setting off the bomb.

At some point, you will need to press the button. However, timing this is the hard part. The button has a lighted ring around it that can be red, green, or blue.

You must press the button while it is red. But be careful, any failure to time this properly will result in the bomb exploding

A circular metal object with a red circle

AI-generated content may be incorrect.

Regarding the Wires

Which wires should you ‘cut’? One wrong ‘snip’ leads you one step closer to an ‘explosion’!

This phase consists of two parts, A and B. For part A you must solve this math problem in order to get the value x, needed for part B.

Part A

(50 ÷ (5 + 5)) × (3 + 2) + 1 = x

Hint: Remember your order of operations!

Part B

For the next step, you must convert the number you got in Part A into binary. This can be done by placing a 1 in the appropriate powers of two represented by the columns of the table below that, when added together, sum to the value. A 0 is placed in the remaining columns.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| 16 | 8 | 4 | 2 | 1 |
|  |  |  |  |  |

Once completed “cut” the wires with the value of 0. WARNING! Keep in mind that binary numbers are read from right to left!

Regarding the Keypad- FINAL PHASE

A black keypad with white numbers

AI-generated content may be incorrect.Congratulations! You have made it to the final phase in defusing the bomb! Don’t celebrate too early though, you are still one mistake away from setting off the bomb.

For this phase, you must win a game of Pacman by eating every dot but be careful! Contact with the “ghosts” will trigger the explosion of the bomb!

In order to control Pacman, you will use the keypad (as shown in the image above). Pressing the following buttons will move Pacman different directions.

2- Up

4- Left

6- Right

8- Down