

How to Defuse a Bomb: A Textual Guide



Brought to you by the Second
Group of the Eleventh Section
of Dr. Smith's Intro to
Engineering Course

Hi there,

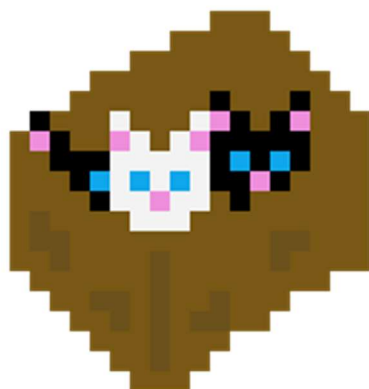
If you're reading this guide, then that means you must be in the middle of a deadly bomb situation. But worry not, this handy handbook has all the information you need to know to start defusing that bomb and save that box of kittens!

So, without further ado, we humbly present to you:

How to Defuse a Bomb:

A Textual Guide

by Andy, Nick, Patrick, Santi, Thomas



Pictured above: The box of kittens you are going
to save from an explosive death

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On the Subject of Wires

When one is disarming a bomb, wires, and their cutting, there are things which you are bound to stumble upon. Bombs either have four or five different colored wires, and following are some helpful charts that will allow you to determine which wires you should take your mighty scissors and cleave in half. Please keep in mind that if the chart does not explicitly say to cut a wire, it can be understood that you should not cut that wire.

A chart explaining how to disarm a bomb with four wires. If..

The red wire is the first wire which appears	Do not cut the red wire. If the blue wire is the second wire which appears, please do cut the blue wire. If the yellow wire is the third wire which appears, please do cut the yellow wire. If the green wire is the last wire which appears, please do cut the green wire.
The red wire is the second wire which appears	Please do cut the red wire. If the first wire which appears is blue, please do cut all the wires EXCEPT for the blue wire. If the first wire which appears is yellow, please do cut the blue wire. If the first wire which appears is green, please cut no more wires.
The red wire is the third wire which appears	Please cut the red wire. If the final wire which appears is NOT blue, please do cut the blue wire. Otherwise, if the final wire which appears is blue, please cut both the first and second wire which appear.
The red wire is the final wire which appears	And the first wire which appears is blue, please cut the red wire. Further, if the second wire is yellow, please also cut the blue wire. Otherwise, if the first wire which appears is yellow AND the second wire is green, please cut the green and yellow wires. Otherwise, if the first wire which appears is green AND the second wire is blue, please do cut all four wires. Otherwise, if the first wire which appears is green And the second wire is yellow, please do not cut any wires.



This is what a wire might look like. If you really needed this image to identify what the wires look like, we suggest finding someone more competent to disarm the bomb.

A chart explaining how to disarm a bomb with 5 wires. If...

The orange wire is the first wire which appears	Please do cut the orange wire. If the yellow wire is the second wire which appears, please do cut the yellow wire. If the green wire is the third wire which appears, please cut the green wire. If the blue wire is the fourth wire which appears, please cut the blue wire. If the red wire is the final wire which appears, please cut the red wire.
The orange wire is the second wire which appears	Please do cut the orange wire. If the red wire is the first wire, please do cut all of the wires. If the red wire is the third wire AND the first wire is blue, please do cut all the wires. If the red wire is the third wire AND the first wire is green, please do not cut any more wires. If the red wire is the third wire AND the first wire is the yellow wire, please cut the yellow wire. If the red wire is the fourth wire, please do cut the red wire. If the red wire is the final wire, please do not cut any more wires.
The orange wire is the third wire which appears	Please do not cut the orange wire. If the first wire is blue, please do cut all of the wires except for the orange and blue wires. If the blue wire is the second which appears, please do cut the blue wire. If the blue wire is in the fourth position, please do not cut any wires. If the blue wire is the final wire which appears AND the red wire is the first wire which appears, please do cut the red wire. In this case, if the green wire is the second wire, please do cut the green wire as well. Further in this case, if the yellow wire is the fourth wire which appears, please do cut the yellow wire.
The orange wire is the fourth wire which appears	Please look at the second wire. If the second wire is red, please do cut every single wire. If the second wire is blue, please look at the third wire. In this case, if the third wire is red, cut the red wire, but if the third wire is green, cut the blue wire. Finally in this case, if the third wire is yellow, cut the red wire. If the second wire is green, please do cut no wires. If the second wire is yellow, please do cut the red and blue wires.
The orange wire is the fifth wire which appears	Please do cut the orange wire. If the first wire is red, please do cut the red wire. If the second wire is blue, please do cut the blue wire. If the third wire which appears is green, please do cut the green wire. If the fourth wire which appears is yellow, please do cut the yellow wire. However, if all wires would be cut, please do not cut any wires.

Please be sure to cut through a wire completely when you have finished deciding which wires to cut. A half cut wire can lead to a terrible mess some poor bloke will have to scrape off the wall.

On the Subject of Buttons

When considering which button you should press, there are three important questions to ask yourself:

- 1) Is a blue button adjacent (as in left to right) to a red button?
- 2) Is at least one LED (large evil detonation) light above a button of the same color?
- 3) Why am I the one disarming this bomb?

If the answer to question three is not "I am the only person who can do it" then we suggest running away and forcing someone else to take your place.



Sorry to disappoint, but this is an image of a button,
not a Christmas present. Unless this bomb
defusal manual is a present, in which case, Merry Christmas!
Though maybe not so merry, if you're getting a
bomb defusal guide for Christmas.

And now, the part you should have skipped to after question 2:

In general, you will want to press the buttons based on their values. The value of each button is determined by the color of the button and the color of the LED above the button. The value of a button is the value of the two colors multiplied together, and these are the values of the colors:

Values for Button Color	Values for Light Color
Red = 1	Red = 2
Black = 2	Black = 4
Blue = 3	Blue = 3
Green = 4	Green = 1

(for example, a red button with a green light will yield a value of 4)

If you answered NO to question 1 and 2 above, the highest value button must be pressed.

If you answered YES to both question 1 and 2 above, the second highest value button must be pressed.

If you answered NO to question 1 and YES to question 2 above, then the second lowest value button must be pressed.

If you answered YES to question 1 and NO to question 2 above, then the lowest value button must be pressed.

On the subject of button value repeats

If you are unlucky and two of the buttons have the same value (**and that value corresponds to the button which must be pressed**), then we are sorry to inform you that you are doomed.

Psyche!

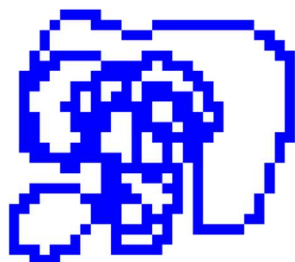
Ha, you should have seen the look on your face!

If two buttons are in the running to be pressed, then the button that is on the higher row should be pressed. If they are on the same row, then the button which is leftmost should be pressed.

However, if three buttons have the same value and it is the value you must press, AND you answered either YES to both question 1 and 2 or you answered NO to both question 1 and 2, then press the single button which does not share its value with the other three.

If three buttons have the same value and it is the value you must press, AND you answered YES to one question above and NO to the other question, then number the buttons 1-4, with 1 being the top left, 2 being the top right, 3 being the button left, and 4... you can figure that much out. You must then press the button that has been numbered between the two other equal value buttons. (Ex, if you are deciding between buttons 1, 3 and 4, press button 3)

Look out! One final exception to the rules, which takes priority over all other rules above, is if there are two different repeating values for the buttons. If you have two pairs of buttons with the same values, you MUST press the button that has a blue LED light above it.



This is the color blue.

No, these are not scribbles.

This is an abstract rendering
Of string theory.

On the Subject of Switches

There are four switches in the switches module. If you flip a switch up, you have switched it on. If you flip it down, you have switched it off.

Whether you flip a switch on or off depends on the super-secret CODE WORD. Please grab volume five of the first edition of Encyclopedia Britannica and turn to page 18 to start deciphering the CODE WORD. The first letter of the word will be in the second paragraph as the last letter of the second adjective which appears describing 'bulldog'. Turn to page 95 for instructions for the rest of the letters of the CODE WORD.

Or if you're a lazy bum, you can find the CODE WORD listed atop the switches. Geez, millennials, so used to instant gratification...

The rules for the switches are quite simple:

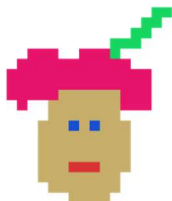
If you are not told to flip a switch to the ON position, leave it in the OFF position

For the first switch, flip it to the ON position if the second letter of the CODE WORD is a vowel (that's a, e, i, o, and u)

For the second switch, flip it to the ON position if the last letter of the CODE WORD is an 'n'. As in the middle of the word 'banana'

For the third switch, flip it to the ON position if the CODE WORD rhymes with briBE, bUN, or bURN.

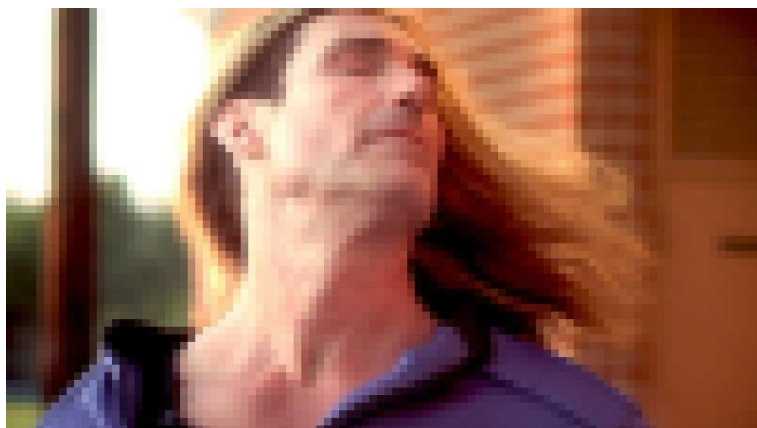
For the fourth switch, flip it to the ON position if the CODE WORD is found in the Shakespearian soliloquy from the classic play 'The Merchant of Venice' which can be found in the back of this manual.



An artist's depiction of Shakespeare if he liked to wear silly hats with feathers in them (Circa 2018).

On the Subject of Number Pads

Ah, the number pad. The oldest form of typing in phone numbers to telephones. But this number pad is, unfortunately, not programmed to dial the number of Fabio Lanzoni, Italian-American actor/fashion model and spokesman who appeared on the covers of dozens of romance novels throughout the 1980s and 1990s.



No, this number pad instead requires a SECRET CODE. You will not be able to find the SECRET CODE until you have solved every other module on the bomb. The secret code will either be nine or ten digits long, with a nine digit code for a bomb with four wires and a ten digit code for a bomb with five wires.

To decipher the SECRET CODE, you must first determine the 'order' of the other modules. To do this, assign the top left module the value of one, the top right module the value of two, the bottom left module the value of three, and the bottom right module the value of four. This is the order which will be used later to put the SECRET CODE together.

¹ "Fabio is American." Boing Boing. March 17, 2016. Accessed April 23, 2017.
<http://boingboing.net/2016/03/17/fabio-is-american.html>.

The SECRET CODE has three components for the three modules that are not the number pad:

For wires, the secret code is found by examining which wires are cut and which wires are uncut. You will get a four or five-digit code depending on how many wires there are

Wire 1 cut - 2	Wire 2 cut - 1	Wire 3 cut - 3	Wire 4 cut - 5	Wire 5 cut - 4
Wire 1 uncut - 7	Wire 2 uncut - 9	Wire 3 uncut - 6	Wire 4 uncut - 2	Wire 5 uncut - 8

To find the SECRET CODE for the wires, go through the table and find the value for each wire 1-5. Put these numbers together in a string. Ex: if the values for the wires go (2, 1, 6, 2, 4) then the SECRET CODE for the wires will be 21624.

To find the SECRET CODE for the buttons, simply assign order values to the buttons in the same manner you did for the module above. If you selected button 1, the value will be 6. If you selected button 2, the value will be 3. If you selected button 3, the value will be 9. If you selected button 4, the value will be 2. Your SECRET CODE for the buttons will simply be the value for your chosen button.

To find the SECRET CODE for the switches, use the same strategy as the wires:

Switch 1 ON - 5	Switch 2 ON - 7	Switch 3 ON - 2	Switch 4 ON - 1
Switch 1 OFF - 8	Switch 2 OFF - 6	Switch 3 OFF - 4	Switch 4 OFF - 3

Remember the order of the modules? Here is where that comes in handy. Put the SECRET CODE parts together in the order you find the modules to get one long string. This string of numbers will be the final piece to solve all the puzzles and DEFUSE the bomb!

An example of the SECRET CODE can be found on the next page...

Let us pretend you got these SECRET CODE values:

Wires: 27954

Buttons: 3

Switches: 8641

And the order of modules is:

Switches = 1

Buttons = 2

Number Pad = 3

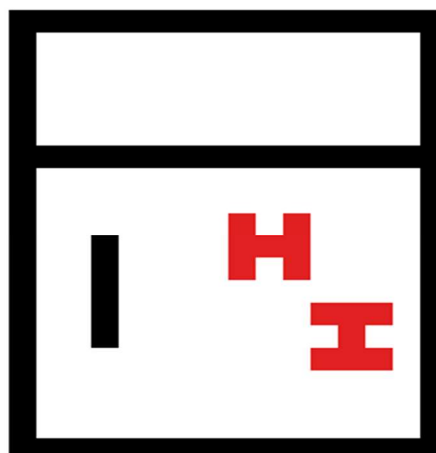
Wires = 4

You will combine the SECRET CODE values in the order of switches, buttons, then wires, so it will come out like this:

8641327954

You would then enter that number into the number pad and call Fabio- I mean, test your defusal solution by hitting the 'apply' button. If it succeeds, congratulations! You'll have defused the bomb and saved some kittens! If it didn't work, you can't be reading this because you died a tragic death. So, congratulations for defusing the bomb and saving the kittens!

Sadly, our poor artist worked
His fingers to the bone on that
Last picture of Fabio. We had
Told him if he made a nice enough
Picture we would hang it on the fridge
Using his favorite letter magnets, H and
I. Sadly, the fridge will now forever
Be a blank, white fridge with no nice
Pictures of a family on a picnic or
Anything like that. Just two letters, an
H and an I, sitting there. Alone.



Signor Antonio, many a time and oft
 In the Rialto you have rated me
 About my moneys and my usances.
 Still have I borne it with a patient shrug,
 For sufferance is the badge of all our tribe.
 You call me misbeliever, cutthroat dog,
 And spit upon my Jewish gaberdine—
 And all for use of that which is mine own.
 Well then, it now appears you need my help.
 Go to, then! You come to me and you say,
 "Shylock, we would have moneys." You say so!—
 You, that did void your rheum upon my beard
 And foot me as you spurn a stranger cur
 Over your threshold! Moneys is your suit.
 What should I say to you? Should I not say,
 "Hath a dog money? Is it possible
 A cur can lend three thousand ducats?" Or
 Shall I bend low and in a bondman's key
 With bated breath and whispering humbleness
 Say this:²

² Shakespeare, William. "The Merchant of Venice." SparkNotes. Accessed April 23, 2017.
http://nfs.sparknotes.com/merchant/page_34.html.