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Mission: Breach the Firewall

You have this lesson to breach the firewall.

You are attempting to break into a top-secret server to download some important information. Can you solve the puzzles and crack the password?

You only have 45 minutes to crack the code before the network administrator is able to trace the attack and block you.

All solutions/codes should be written in UPPER case

Red Room	Solution
Puzzle 1	
Puzzle 2	
Puzzle 3	
Puzzle 4	
Puzzle 5	

Green Room	Solution
Puzzle 6	
Puzzle 7	
Puzzle 8	
Puzzle 9	
Puzzle 10	

Blue Room	Solution
Puzzle 11	
Puzzle 12	
Puzzle 13	
Puzzle 14	
Puzzle 15	

Final puzzle	Solution
Final puzzle	

Firewall code	Solution
Firewall code	

Room 1

Welcome to the Red room, the number on the door is 50

Puzzle 1 – Binary ASCII Lock

Convert the following from ASCII to Text.

ASCII	TEXT
01000011 01001111 01000100 01000101	

Puzzle 2 – Binary to Denary Switch

Binary	Denary
101101	

Puzzle 3 – Hexadecimal Keypad

Hexadecimal	Denary
2F	

Puzzle 3 – Binary Addition Error

Binary addition	Binary
010101 + 001011	

Puzzle 5 – Character Storage

Question	Answer
How many bits are required to store 1 ASCII character?	

Room 2

Welcome to the green room, the number on the door is 168

Puzzle 6 – CPU Match-Up

The processor carries out an essential cycle billions of times a second but what is it called?

Clue:

- Get instruction
- Interpret instruction
- Carry out instruction

The code to this puzzle is the first letter of each of the 3 words in the cycle.

Puzzle 7 – RAM vs ROM Sort

Which is:

- Volatile?
- Stores BIOS?
- Loses data when powered off?

Puzzle 8 – Secondary Storage Cipher

Which internal storage device is slower than an SSD and sometimes used to store the operating system and files?

The code is the first letter from each of the 3 words

Puzzle 9 – Network Type Riddle

A network covering a school site

The code is the first letter of each of the three words

Puzzle 10 – Protocol Puzzle

- Web pages
- File transfer
- Sending Email
- Domain lookup

The code is the first letter of each protocol (in order)

Room 3

Welcome to the Blue room, the number on the door is 82

Puzzle 11 – Trace the Code

```
x = 3
y = 5
x = x + y
y = x - y
print(y)
```

The code is y

Puzzle 12 – Selection Bug

```
What is missing?
if score > 50:
print("Pass")
```

The code is the first 6 letters of what is missing.

Puzzle 13 – Loop Output

```
total = 0
for i in range(1,4):
    total += i
print(total)
```

The code is the printed total

Puzzle 14 – Data Type Decoder

- "Hello"
- 7
- 3.5
- True

The code is the first letter of the data type (in order)

Puzzle 15 – Boolean Gate Finale

```
A = True
B = False
A AND (NOT B)
```

The code is the output

Final puzzle

What is the RGB colour using each door number

The code is the colour name (Red Green or Blue)

Time to breach the firewall?

Visit this [link](#) and type the code to breach the firewall. The code is the first letter for each of the 5 solutions from the room identified by the final puzzle.

<https://classroom.iteachyou.co.uk/breach-the-firewall/>