

## Create a strong password and evaluate its strength:

### Objective:

- Understand what makes a password strong and test it against password strength tools

### Environment & Prerequisites:

- Passwordmeter.com

### Observations:

- Passwords with a mix of uppercase, lowercase, numbers, and symbols scored higher in strength tests.
- Longer passwords were significantly stronger and more secure.
- Simple or common passwords (like password) were rated very weak and vulnerable to attacks.
- Passphrases are both secure and easy to remember.

Test Your Password		Minimum Requirements
Password:	<input type="text" value="8RuTeF0rcE@Tt@ck"/>	<ul style="list-style-type: none"> <li>Minimum 8 characters in length</li> <li>Contains 3/4 of the following items: <ul style="list-style-type: none"> <li>Uppercase Letters</li> <li>Lowercase Letters</li> <li>Numbers</li> <li>Symbols</li> </ul> </li> </ul>
Hide:	<input type="checkbox"/>	
Score:	<div>100%</div>	
Complexity:	Very Strong	

Additions		Type	Rate	Count	Bonus
	Number of Characters	Flat	$+(n*4)$	<input type="text" value="16"/>	+ 64
	Uppercase Letters	Cond/Incr	$+\left((len-n)*2\right)$	<input type="text" value="6"/>	+ 20
	Lowercase Letters	Cond/Incr	$+\left((len-n)*2\right)$	<input type="text" value="6"/>	+ 20
	Numbers	Cond	$+(n*4)$	<input type="text" value="2"/>	+ 8
	Symbols	Flat	$+(n*6)$	<input type="text" value="2"/>	+ 12
	Middle Numbers or Symbols	Flat	$+(n*2)$	<input type="text" value="3"/>	+ 6
	Requirements	Flat	$+(n*2)$	<input type="text" value="5"/>	+ 10
Deductions					
	Letters Only	Flat	$-n$	<input type="text" value="0"/>	0
	Numbers Only	Flat	$-n$	<input type="text" value="0"/>	0
	Repeat Characters (Case Insensitive)	Comp	-	<input type="text" value="6"/>	- 1
	Consecutive Uppercase Letters	Flat	$-(n*2)$	<input type="text" value="0"/>	0
	Consecutive Lowercase Letters	Flat	$-(n*2)$	<input type="text" value="1"/>	- 2
	Consecutive Numbers	Flat	$-(n*2)$	<input type="text" value="0"/>	0
	Sequential Letters (3+)	Flat	$-(n*3)$	<input type="text" value="0"/>	0
	Sequential Numbers (3+)	Flat	$-(n*3)$	<input type="text" value="0"/>	0
	Sequential Symbols (3+)	Flat	$-(n*3)$	<input type="text" value="0"/>	0

Test Your Password		Minimum Requirements
Password:	<input type="text" value="password"/>	<ul style="list-style-type: none"> <li>Minimum 8 characters in length</li> <li>Contains 3/4 of the following items: <ul style="list-style-type: none"> <li>Uppercase Letters</li> <li>Lowercase Letters</li> <li>Numbers</li> <li>Symbols</li> </ul> </li> </ul>
Hide:	<input type="checkbox"/>	
Score:	<div>8%</div>	
Complexity:	Very Weak	

Additions		Type	Rate	Count	Bonus
✓	Number of Characters	Flat	$+(n*4)$	8	+ 32
✗	Uppercase Letters	Cond/Incr	$+(len-n)*2$	0	0
★	Lowercase Letters	Cond/Incr	$+(len-n)*2$	8	0
✗	Numbers	Cond	$+(n*4)$	0	0
✗	Symbols	Flat	$+(n*6)$	0	0
✗	Middle Numbers or Symbols	Flat	$+(n*2)$	0	0
✗	Requirements	Flat	$+(n*2)$	2	0
Deductions					
⚠	Letters Only	Flat	$-n$	8	- 8
✓	Numbers Only	Flat	$-n$	0	0
⚠	Repeat Characters (Case Insensitive)	Comp	-	2	- 2
✓	Consecutive Uppercase Letters	Flat	$-(n*2)$	0	0
⚠	Consecutive Lowercase Letters	Flat	$-(n*2)$	7	- 14
✓	Consecutive Numbers	Flat	$-(n*2)$	0	0
✓	Sequential Letters (3+)	Flat	$-(n*3)$	0	0
✓	Sequential Numbers (3+)	Flat	$-(n*3)$	0	0
✓	Sequential Symbols (3+)	Flat	$-(n*3)$	0	0

Test Your Password		Minimum Requirements
Password:	<input type="text" value="Cyber\$eCur1Ty"/>	<ul style="list-style-type: none"> <li>• Minimum 8 characters in length</li> <li>• Contains 3/4 of the following items: <ul style="list-style-type: none"> <li>- Uppercase Letters</li> <li>- Lowercase Letters</li> <li>- Numbers</li> <li>- Symbols</li> </ul> </li> </ul>
Hide:	<input type="checkbox"/>	
Score:	<div>97%</div>	
Complexity:	Very Strong	

Additions		Type	Rate	Count	Bonus
	Number of Characters	Flat	$+(n*4)$	<input type="text" value="13"/>	+ 52
	Uppercase Letters	Cond/Incr	$+(len-n)*2$	<input type="text" value="3"/>	+ 20
	Lowercase Letters	Cond/Incr	$+(len-n)*2$	<input type="text" value="8"/>	+ 10
	Numbers	Cond	$+(n*4)$	<input type="text" value="1"/>	+ 4
	Symbols	Flat	$+(n*6)$	<input type="text" value="1"/>	+ 6
	Middle Numbers or Symbols	Flat	$+(n*2)$	<input type="text" value="2"/>	+ 4
	Requirements	Flat	$+(n*2)$	<input type="text" value="5"/>	+ 10
Deductions					
	Letters Only	Flat	$-n$	<input type="text" value="0"/>	0
	Numbers Only	Flat	$-n$	<input type="text" value="0"/>	0
	Repeat Characters (Case Insensitive)	Comp	-	<input type="text" value="8"/>	- 1
	Consecutive Uppercase Letters	Flat	$-(n*2)$	<input type="text" value="0"/>	0
	Consecutive Lowercase Letters	Flat	$-(n*2)$	<input type="text" value="4"/>	- 8
				<input type="text" value="1"/>	