

Password Complexity Calculator

Problem Statement

You have been asked by a client to write a class, which is responsible for calculating the complexity & score of a user's password.

Specific Requirements

Each requirement will add or subtract to the overall score. Final score is cumulative result of all additions minus deductions. The final score is capped with a minimum of 0 and a maximum of 100.

Note: • The variable 'len' refers to the total password length.

Additions	Rate
Length of password	$+((len)*4)$
Uppercase Letters	$+((len-(\text{Uppercase Letters}))*2)$
Lowercase letters	$+((len-(\text{Lowercase letters}))*2)$
Numbers	$+((\text{Numbers})*4)$
Symbols	$+((\text{Symbols})*6)$
Deductions	Rate
Letters Only	$-(\text{Letters Only})$
Numbers Only	$-(\text{Numbers Only})$
Consecutive Letters or Numbers	$-((\text{Consecutive Letters or Numbers})*2)$

Example

Password: Example123

Additions	Rate	Score
Length of password	$+((len)*4)$	$(10*4) = 40$
Uppercase Letters	$+((len-(Upper case Letters))*2)$	$(10-1)*2 = 18$
Lowercase letters	$+((len-(Lower case letters))*2)$	$(10-6)*2 = 8$
Numbers	$+((Numbers)*4)$	$(3*4) = 12$
Symbols	$+((Symbols)*6)$	$(0*6) = 0$
Deductions	Rate	
Letters Only	$-(Letters Only)$	-0
Numbers Only	$-(Numbers Only)$	-0
Consecutive Letters or Numbers	$-((Consecutive Letters or Numbers)*2)$	$-(8*2) = -16$
Total Score		62

Acceptance Tests

Password	Score
perficient	50
cardinals	45
1234567890	100
Cardinal\$15	86
CARDINALS	45
p@s\$w0r#	78
jA(kBauer	62
jellyfish	43
Jelly	23
thisisareallylongpasswordthatshouldgenerateascoreof100	100