

Experiment 1

Q1) If the sum of the exponents of a number's digits as well as the number of digits is still equal to that number, this number is called the "Armstrong number". In other words, it is the summation of each digit by taking the exponent of that number by the number of total digits. If the total gives this number, that number is the Armstrong Number.

Some Armstrong numbers: 0, 1, 2, 3, 153, 370, 407, 1634, 8208

$$153 = 1^3 + 5^3 + 3^3$$

$$1634 = 1^4 + 6^4 + 3^4 + 4^4$$

Write a C program that takes a number as an input and checks if it is an "Armstrong number". Your program should print out the result for a given number.

Q2) A team has to be assembled and team members will be admitted based on their score. The final score will be created by multiplying the score from each criterion by a coefficient. Later, those who have a passing grade above 50 will be accepted. Coefficient values of the criteria are given in Table 1 and the scores members got from each criterion in Table 2.

Write a C program with the scores as input and explaining the results. The program should score he / she got from criterias. Then the program should print whether he / she was accepted whose data was entered. And also the difference between his / her grade and passing grade should be printed in detail. The program should not close until the "0" is entered and should wait for each new member information.

Criteria	Coefficients
Running	0.38
Weight lifting	0.22
Climbing	0.25
Reflex	0.15

Names	Running	Weight lifting	Climbing	Reflex
Hulk	85	96	75	36
Black Widow	14	45	10	58
Iron Man	55	85	35	75
Thor	65	85	75	69
Hawkeye	45	21	65	40
Captan America	85	65	36	65

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Running score: 69
Weight lifting score: 25
Climbing score: 16
Reflex score: 32
This member is failed, score is 40.520000, difference is 9.480000.
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