# Types, Values, Operators: Part 1

1. Given two variables, which are the angles of a triangle. Find the third angle of the triangle. (Sum of the angles of a triangle equals *180* degrees).

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| **Input** | **Output** |
| 45, 90 | 45 |
| 30, 30 | 120 |
| 75, 25 | 80 |

1. Given number *n* (positive integer). Print the value of *n + nn + nnn***(not multiplication)**.

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| **Input** | **Output** |
| 3 | 369 |
| 17 | 173451 |
| 100 | 100200300 |

1. Given a positive integer. Bring the last digit of the number to the beginning. Print the new number. If the last digit of the inserted number is 0, number remains the same.

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| **Input** | **Output** |
| 367 | 736 |
| 1002 | 2100 |
| 250 | 250 |
| 8 | 8 |

1. Given five numbers as input. Calculate and print the average of the numbers(without using arrays).

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| **Input** | **Output** |
| 45, -12, 0, 3, -15 | 4.2 |
| 7, 52, -23, 9, -81 | -7.2 |

1. Check if a number is a multiple of 3, 5 or 7 and output the appropriate message.

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| **Input** | **Output** |
| 21 | “21 is a multiple of 3 and 7.” |
| 35 | “35 is a multiple of 5 and 7.“ |
| 13 | “13 is not a multiple of 3, 5 or 7.” |
| 420 | “420 is a multiple of 3, 5 and 7.” |

1. Given an age, figure out whether someone is a baby(1 months - 12 months), toddler (1 year - 2 years), child(3 years - 12 years ), teenager(13 years - 17 years) or adult(18 years and more ). Also check that age in months is between 1 and 12.

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| **Input** | **Output** |
| 8, “months” | “baby” |
| 45, “years” | “adult” |
| 3, “years” | “child” |

1. Given three numbers. Sort them by the ascending order.

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| **Input** | **Output** |
| 45 , 26, 78 | 26, 45, 78 |
| -23, -456, 0 | -456, -23, 0 |

1. Percentage marks obtained by a student in three exams are to be entered to a computer. An indication of Pass or Fail is given out after the three marks are entered. The criteria for passing are as follows:
   1. A student passes if all three examinations are passed.
   2. Additionally a student may pass if only one subject is failed but the overall average is greater than or equal to 50.

The pass mark for an individual subject is 40.

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| **Input** | **Output** |
| 65, 70, 60 | “Passed” |
| 10, 85, 75 | “Passed” |
| 35, 25, 40 | “Not passed” |
| 20, 40, 40 | “Not passed” |

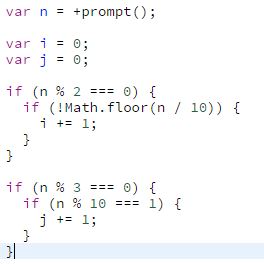
1. Find the sign of product of three numbers **without** multiplication operator. Display the specified sign.

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| **Input** | **Output** |
| -14, 5, 0 | “unsigned” |
| -8, 9, -6 | “+” |
| 4, 19, -2 | “-” |

1. Input three numbers *a*, *b*, *c* respectively, where a is a non zero number and write a program to solve quadratic equations: . *(Hint: use Math.pow or Math.sqrt)*.

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| **Input** | **Output** |
| 1, 2, 1 | “Solution is -1” |
| 0, 4, -5 | “Enter valid constans” |
| 3, -8, 12 | “Solution does not exists” |
| 5, -13, 6 | “Solutions are 0.6 and 2” |

1. Given the following code rewrite it using only two *if* operators. (*Hint:* use logical operators).



1. Write a program which will compute the area of a rectangular or a triangle after prompting the user to type the name of the figure name. Also check that entered numbers are positive.   
   *For the triangle entered numbers are height and and base.*

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| **Input** | **Output** |
| “triangle”, 6, 7 | “Square of the triangle is 21” |
| “rectangle”, 8, 5 | “Square of the rectangle is 40” |
| “triangle”, 0, 5 | “Please enter only positives” |