

JS-A1#6

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| Task 1 | <p>Watch the lesson video carefully twice (at least). Then answer the following questions</p> <ol style="list-style-type: none"> Do all the questions solved in the video <ol style="list-style-type: none"> Largest of 3 numbers Replace char1 by char2 in str Is number a square Compute factorial Print the factorial from 1 to n What is a function. Why do we use functions. Explain the flow of execution when a function is called. |
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| Task 2 | Define a function that takes a number n as parameter and returns the sum of the numbers from 1 to n. | |
| Test Cases | Input | Expected Output |
| | n=10 | 55 |
| | n=2 | 3 |
| | n=20 | 210 |

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| Task 3 | Define a function that takes a string and char as parameter and returns a string with that char removed. | |
| Test Cases | Input | Expected Output |
| | str=moozoom, ch=m | oozoo |
| | str=abcaabca, ch=a | bcabc |
| | str=abcd, ch=3 | abcd |

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| Task 4 | Define a function that takes 3 numbers as parameters. If the three numbers can form a right angled triangle, it returns true otherwise false. | |
| Test Cases | Input | Expected Output |
| | 6, 8, 10 | True |
| | 12, 13, 5 | True |
| | 5, 3, 4 | True |
| | 10, 14, 16 | False |

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| Task 5 | Define a function that takes 3 numbers as parameters. If the three numbers can form a triangle, it returns true otherwise false. | |
| Test Cases | Input | Expected Output |
| | 5, 6, 7 | True |
| | 7, 2, 5 | False |
| | 6, 10, 3 | False |
| | 8, 14, 24 | False |

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| Task 6 | Define a function that takes a string as parameter and returns the reverse of the string | |
| Test Cases | Input | Expected Output |
| | str=Perfect | tcefreP |
| | str=Java | avaJ |
| | str=123456789 | 987654321 |

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| Task 7 | Define a function that takes a string and char1 and char2 as parameter and returns 1 if char1 occurs more than char2 in the string, 0 if they occur the same number of times and -1 otherwise. | |
| Test Cases | Input | Expected Output |
| | str=moozoom, char1=m, char2=o | -1 |
| | str=abcaabca, char1=b, char2=c | 0 |
| | str=abcdefgh, char1=3, char2=4 | 0 |
| | str=aaacdef, char1=c, char2=x | 1 |

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| Task 8 | Define a function that takes a string as parameter and returns true if the string has Equal Brackets and false otherwise. A string has Equal Brackets if the number of (is equal to the number of) in the string | |
| Test Cases | Input | Expected Output |
| | (a+b+(c+d*e)-(d+e*f))+3 | True |
| | 5+(((a+b)*c)+d+e)-7 | True |
| | (a+b))+(c | True |
| | (a+b)+(c | False |
| | 4+5)+6 | False |

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| Task 9 | Define a function that takes a string as parameter and returns true if the string is good expression and false otherwise. A string is a good expression if the number of (is equal to the number of) and every) is preceded by a (. Note that in the expression (a+b))+(c, though the number of (is equal to the number of), the second) is not preceded by a corresponding (and hence it is not a good expression. | |
| Test Cases | Input | Expected Output |
| | (a+b+(c+d*e)-(d+e*f))+3 | True |
| | 5+(((a+b)*c)+d+e)-7 | True |
| | (a+b))+(c | False |
| |)a+b((| False |
| | 4+5)+6 | False |
| | ((a+b)*c)))+(5+6 | False |
| | 4+(5+6 | False |

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| Task 10 | Define a function that takes a number as parameter. If the number is a prime number, it returns true otherwise false. | |
| Test Cases | Input | Expected Output |
| | 5 | True |
| | 49 | False |
| | 1 | False |
| | 97 | False |

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| Task 11 | Define a function that takes a number n as parameter and returns the number of prime numbers between 1 and n. Use the function defined in the above task. | |
| Test Cases | Input | Expected Output |
| | 2 | 1 |

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| | 75 | 21 |
| | 1 | 0 |
| | 150 | 35 |

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| Task 12 | Define a function that takes a string and char as parameter and returns the number of times the char appears in the string. | |
| Test Cases | Input | Expected Output |
| | str=museum, ch=m | 2 |
| | str=abracadabra, ch=a | 5 |
| | str=90045, ch=2 | 0 |

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| Task 13 | Define a function that takes a string as parameter and returns the count of the maximum occurring char in that string. Use the function define in the above task. | |
| Test Cases | Input | Expected Output |
| | str=museum | 2 |
| | str=abracadabra | 5 |
| | str=90045 | 2 |
| | str=abcdefg | 1 |
| | str=dddddd | 5 |

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| Task 14 | Define a function that takes a number n and returns the sum of its digits. Remember, for a number a a%10 gives its last digit, whereas a/10 removes the last digit. In an infinite for loop, use break to come out of the loop when the number becomes zero. | |
| Test Cases | Input | Expected Output |
| | 24681 | 21 |
| | 1002 | 3 |
| | 789 | 24 |
| | 15 | 6 |
| | 7 | 7 |