CSE321 LAB: Operating Systems
Lab Assignment 2
Deadline: November 16, 2020

Total Marks: 25

<table>
<tr>
<td>1</td>
<td>Prompt the user to input their annual income. Write a shell script to calculate their taxes according to the following scale:
<table>
<tr><td>First 2,40,000</td><td>Tax Free</td></tr>
<tr><td>Next 3,00,000</td><td>10%</td></tr>
<tr><td>Next 1,80,000</td><td>20%</td></tr>
<tr><td>Rest</td><td>30%</td></tr>
</table>
Sample Input/Output:
<table>
<tr><td>Sample Input</td><td>Sample Output</td></tr>
<tr><td>230000</td><td>0</td></tr>
<tr><td>440000</td><td>20000</td></tr>
<tr><td>600000</td><td>42000</td></tr>
<tr><td>1000000</td><td>150000</td></tr>
</table>
</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Prompt the user for a number.

Print YES, if the number is a multiple of 5 or a multiple of 2
Print NO, if the number is a multiple of both 5 and 2
Print IGNORE, if the number is neither a multiple of 2 nor a multiple of 5

</td>
<td>5</td>
</tr>
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3	Write a shell script that takes an integer as input and check whether the number is prime or not.	5
4	Write a shell script to make a simple calculator that can carry on four operations: addition (+), subtraction (-), multiplication (*) and division (/). Each of these operations will be implemented in separate methods. Prompt the user for the type of operation they wish to do and then the operands. Sample input: Which operation would you like to do? + Operand 1: 2 Operand 2: 2 Sample output: The result is 4	5
5	Write a shell script to find if a number is a happy number or not. To find whether a given number is happy or not, calculate the square of each digit present in number and add it to a variable sum. If the resulting sum is equal to 1 then, the given number is a happy number. If the sum is equal to 4 then, the number is an unhappy number. For example, 13 is a happy number because 1^2 + 3^2 = 10 and 1^2 + 0 ^2 = 1.	5