

CAP777: WEB DEVELOPMENT USING PHP

CONTINUOUS ASSESSMENTS (C.A)-1

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Q.1. Create a string as 10 101 325 145 1 2 55 46 77 37 78 9889 345 345 34589 345 in PHP and do the code for following statement Create a function that list out all strong number or not that is a number can be said as a strong number when the sum of the factorial of the individual digits is equal to the number.

List out all magic number that is the sum of its digits recursively is calculated till a single digit. If the single digit is 1 then the number is called a magic number.

CODE: -

```
<?php
function checkStrongNumber($number) {
    $num = $number;
    $sum = 0;
    while ($number > 0) {
        $digit = $number % 10;
        $sum += checkFactorial($digit);
        $number = (int)($number / 10);
    }
    return $sum == $num;
}

function checkFactorial($n) {
    if ($n == 0 || $n == 1) {
        return 1;
    } else {
        return $n * checkFactorial($n - 1);
    }
}

function checkMagicNumber($number) {
    while ($number > 9) {
```

```
$sum = 0;
while ($number > 0) {
    $sum += $number % 10;
    $number = (int)($number / 10);
}
$number = $sum;
}
return $number == 1;
}
$input = "10 101 325 145 1 2 55 46 77 78 9889 345 34589 345";

$numbers = explode(" ", $input);

$strongNumbers = [];
$magicNumbers = [];

foreach ($numbers as $num) {
    $num = (int)$num;
    if (checkStrongNumber($num)) {
        $strongNumbers[] = $num;
    }
    if (checkMagicNumber($num)) {
        $magicNumbers[] = $num;
    }
}

echo "Strong Numbers: " . implode(" ", $strongNumbers) . "\n";
echo "Magic Numbers: " . implode(" ", $magicNumbers) . "\n";

?>
```

OUTPUT: -

Strong Numbers: 145, 1, 2 Magic Numbers: 10, 325, 145, 1, 55, 46