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<?php
// Alphabet
$alphabet = array_combine(range(1, 26), range('A', 'Z'));

// Comets
$comets = array('HALLEY', 'ENCKE', 'WOLF', 'KUSHIDA');

// Groups
$groups = array('AMARELO', 'VERMELHO', 'PRETO', 'AZUL');

// Amount of Comets and Groups
$amount_comets_groups = count($comets);

for($i = 0; $i < $amount_comets_groups; $i++) {
    // Remainder of division for comets
    $comet_remainder_division = get_remainder_division($comets[$i],
$alphabet);

    // Remainder of division for groups
    $group_remainder_division = get_remainder_division($groups[$i],
$alphabet);

    // These groups will not be taken
    if($comet_remainder_division != $group_remainder_division) {
        echo "O grupo formado pelo cometa " . $comets[$i] . " e pelo grupo
" . $groups[$i] . " não será levado.";
        echo "<br />";
        echo "Resto da divisão pro cometa " . $comets[$i] . ": " .
$comet_remainder_division . ".";
        echo "<br />";
        echo "Resto da divisão pro grupo " . $groups[$i] . ": " .
$group_remainder_division . ".";
        echo "<br /><br />";
    }
}

// Get Remainder of Divisions
function get_remainder_division($comet_group, $alphabet) {
    // Split every letter to an array
    $comet_group_array = str_split($comet_group);

    // Multiplication
    $multiplication = 1;
    foreach($comet_group_array as $letter) {
        $multiplication = $multiplication * array_search($letter, $alphabet);
    }

    // Remainder of division
    $remainder_division = $multiplication % 45;

    return $remainder_division;
}
?>

```