

## Pizza Hut 2016 Easy Pi Day Problem

The motivation for this problem comes to us courtesy of Pizza Hut National Pi Day Math Contest. The original problem is restated below.

I'm thinking of a ten-digit integer whose digits are all distinct. It happens that the number formed by the first  $n$  of them is divisible by  $n$  for each  $n$  from 1 to 10. What is my number?

In this problem, you will implement the `pizzaHut2016EasyPiDayProblem(int d)` static method which returns a `List<String>` of all numbers `num`, with `d` digits whose digits are all distinct, such that the first  $n$  digits of `num` are divisible by  $n$  ( $1 \leq n \leq d$ ). You may assume that  $1 \leq d \leq 10$ .

Note: you must return these values as a `String` since the 10 digit number is too large to be stores as an `int` or an `Integer`.

The following table shows the result of calls to `pizzaHut2016EasyPiDayProblem(1)` and `pizzaHut2016EasyPiDayProblem(2)`.

<code>pizzaHut2016EasyPiDAyProblem(1)</code>	<code>"1", "2", "3", "4", "5", "6", "7", "8", "9"</code>
<code>pizzaHut2016EasyPiDAyProblem(2)</code>	<code>"10", "12", "14", "16", "18", "20", "24", "26", "28", "30", "32", "34", "36", "38", "40", "42", "46", "48", "50", "52", "54", "56", "58", "60", "62", "64", "68", "70", "72", "74", "76", "78", "80", "82", "84", "86", "90", "92", "94", "96", "98"</code>

For further clarification:

Consider the following code:

```
List<String> nums3 = PizzaHut2016EasyPiDayProblem(3);
```

Every `String` in `nums3` has length 3. The `String` `"843"` is an element of `nums3` since:

```
8 % 1 == 0
```

```
84 % 2 == 0
```

```
843 % 3 == 0
```

and:

```
List<String> nums6 = PizzaHut2016EasyPiDayProblem(6);
```

Every `String` in `nums6` has length 6. The `String` `"801654"` is an element of `nums6` since:

```
8 % 1 == 0
```

```
80 % 2 == 0
```

```
801 % 3 == 0
```

```
8016 % 4 == 0
```

```
80165 % 5 == 0
```

```
801654 % 6 == 0
```