

Задание и порядок выполнения ЛР №7

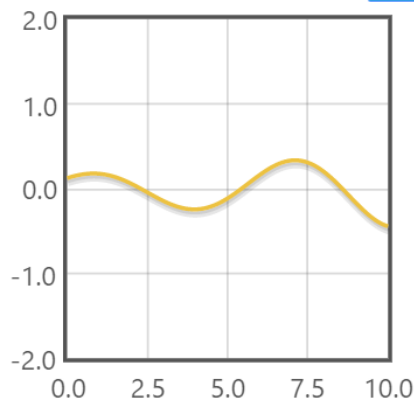
Разработать приложение для построения графиков тригонометрических функций на языке Javascript с HTML интерфейсом.

Пример интерфейса:

From:

To:

Fun:



Код программы

index.html

```
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
integrity="sha384-ggOyR0iXCbMQV3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
crossorigin="anonymous">
<link rel="stylesheet" href="style.css">

<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js" integrity="sha384-
q8i/X+965Dz00rT7abK41JStQIAqVgRVzpbzo5smXKp4YfRvH+8abtTE1Pi6jizo" crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphtPhzWj9WO1cllTMLGa3J5ZwRnQq4sF86dIHNDz0W1"
crossorigin="anonymous"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js" integrity="sha384-
JjSmVgyd0p3pXB1rRibZUAYoIIy60rQ6VrjIEeAeff/nJGzIxFDsf4x0xIM+B07jRM" crossorigin="anonymous"></script>

<script src="https://code.jquery.com/jquery-3.1.0.min.js"></script>
<script src="http://cdn.jsdelivr.net/jquery.flot/0.8.3/jquery.flot.min.js"></script>
<script src="index.js"></script>

<form class="m-5 align-self-center">
  <div class="form-group row justify-content-center">
    <label class="col-1 col-form-label">From</label>
    <div class="col-5">
      <input type="text" class="form-control from">
    </div>
  </div>

  <div class="form-group row justify-content-center">
    <label class="col-1 col-form-label">To</label>
    <div class="col-5">
      <input type="text" class="form-control to">
    </div>
  </div>

  <div class="form-group row justify-content-center">
```

```

<label class="col-1 col-form-label">Function</label>
<div class="col-5">
  <input type="text" class="form-control function">
</div>
</div>

<div class="form-group row justify-content-center align-items-center">
<button type="submit" class="btn btn-primary m-1 graph">Plot me this sh</button>
  <button type="submit" class="btn btn-primary m-1 animation">TURN IT ON</button>
</div>
</form>

<div id="graph" class="output"></div>

```

style.css

```

#graph {
  width: 50%;
  height: 50%;
  display: block;
  margin-left: auto;
  margin-right: auto;
}

```

index.js

```

$(function() {
  var $from = $('.from');
  var $to = $('.to');
  var $function = $('.function');
  var $button = $('.graph');
  var $output = $('.output');

  const delta = 0.1;
  let graph_legend = [];
  let color = 1;

  $button.on('click', function (e) {
    e.preventDefault();

    let from = parseFloat($from.val());
    let to = parseFloat($to.val());
    let x = from;
    let arraylen = ((to - from) / delta) + 1;

    let points = new Array(arraylen);
    for ( let i = 0; i < arraylen; i++ ) {
      points[i] = new Array(2);
    }

    let i = 0;
    while (i < arraylen) {
      const y = eval($function.val());
      points[i][0] = x;
      points[i][1] = y;
      i = i + 1;
      x = x + delta;
    }

    var graph = {};
    graph['label'] = $function.val();
    graph['color'] = color;
    color = color + 1;
    graph['data'] = points;
    graph_legend.push(graph);

    $.plot($output, graph_legend, {});
  });
});

```

Скриншоты выполнения

From

1

To

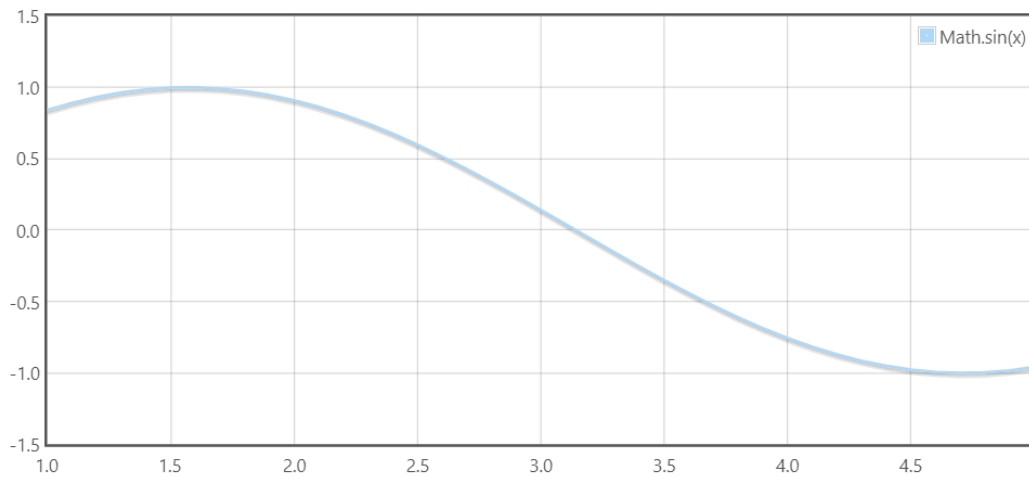
5

Function

Math.sin(x)

Plot me this sh

TURN IT ON



From

1

To

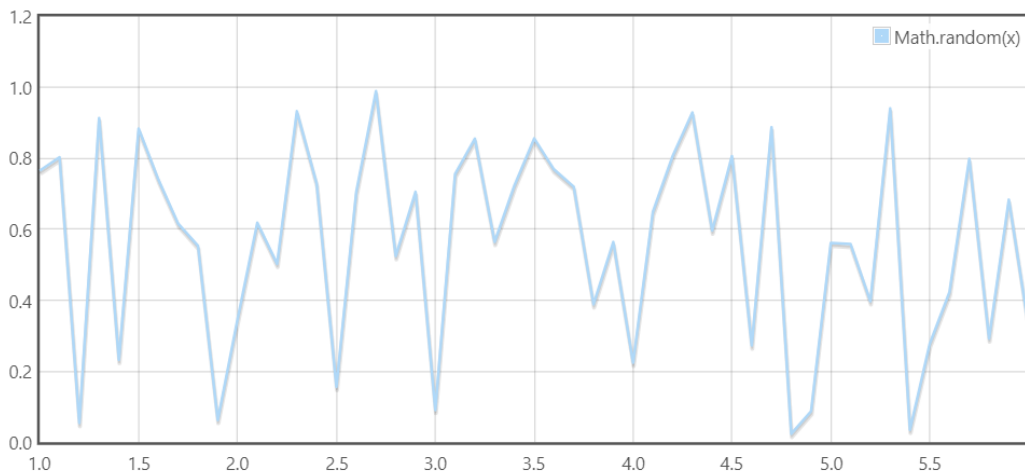
6

Function

Math.random(x)

Plot me this sh

TURN IT ON



From

1

To

7

Function

Math.exp(x)

Plot me this sh

TURN IT ON

