**PSP0 Project Plan Summary**

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| --- | --- | --- | --- |
| Student | 1702861 - Sergio Osvaldo Magaña González | Date | 14-Sept-2020 |
| Program | Calculo de la Media y la desviación estándar | Program # | 01 |
| Instructor | Dr. Felipe de Jesús Rodríguez García | Language | Java script |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Time in Phase (min.)** | **Plan** |  | **Actual** |  | **To Date** |  | **To Date %** |
| Planning |  |  | 17 |  | 17 |  | 7.6% |
| Design |  |  | 21 |  | 21 |  | 9.5% |
| Code |  |  | 44 |  | 44 |  | 19.9% |
| Compile |  |  | 92 |  | 92 |  | 41.6% |
| Test |  |  | 35 |  | 35 |  | 15.83% |
| Postmortem |  |  | 12 |  | 12 |  | 5.4% |
| Total | 480 |  | 221 |  | 221 |  | 100% |
|  |  |  |  |  |  |  |  |
| **Defects Injected** |  |  | **Actual** |  | **To Date** |  | **To Date %** |
| Planning |  |  | 1 |  | 1 |  | 25 % |
| Design |  |  |  |  |  |  |  |
| Code |  |  | 3 |  | 3 |  | 75 % |
| Compile |  |  |  |  |  |  |  |
| Test |  |  |  |  |  |  |  |
| Total Development |  |  | 4 |  | 4 |  | 100 % |
|  |  |  |  |  |  |  |  |
| **Defects Removed** |  |  | **Actual** |  | **To Date** |  | **To Date %** |
| Planning |  |  | 1 |  | 1 |  | 25 % |
| Design |  |  |  |  |  |  |  |
| Code |  |  |  |  |  |  |  |
| Compile |  |  | 2 |  | 2 |  | 50 % |
| Test |  |  | 1 |  | 1 |  | 25 % |
| Total Development |  |  | 4 |  | 4 |  | 100 % |
| After Development |  |  |  |  |  |  |  |

PSP Time Recording Log

|  |  |  |  |
| --- | --- | --- | --- |
| Student | 1702861 – Sergio Osvaldo Magaña Gonzalez | Date | 14 – Sept - 2020 |
| Program | Calculo de la media y la desviacion estandar | Program # | 01 |
| Instructor | Dr. Felipe de Jesus Rodriguez García | Language | JavaScript |

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| --- | --- | --- | --- | --- | --- | --- |
| **Project** | **Phase** | **Start Date and Time** | **Int. Time** | **Stop Date and Time** | **Delta**  **Time** | **Comments** |
| Programa 1 | Planeacion | 13 Septiembre 2020  -12:00 |  | 13 Septiembre  2020  -12:17 | 17 |  |
| Programa 1 | Diseño | 13 Septiembre  2020  -12:17 |  | 13 Septiembre  2020  -12-38 | 21 |  |
| Programa 1 | Codigo | 13 Septiembre  2020  -12:38 | 30 | 13 Septiembre  2020  -13:52 | 44 | Tiempo interrumpido por la hora de comida. |
| Programa 1 | Compilar | 13 Septiembre  2020  -13:52 |  | 13  Septiembre  2020  -15:24 | 92 |  |
| Programa 1 | Pruebas | 14  Septiembre  2020  -15:37 |  | 14  Septiembre  2020  -16:12 | 35 |  |
| Programa 1 | Postmortem | 14 Septiembre  2020  -16:13 |  | 14  Septiembre  2020  -16:25 | 12 |  |
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PSP Defect Recording Log

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| --- | --- |
| Defect Types |  |
| 10 Documentation | 60 Checking |
| 20 Syntax | 70 Data |
| 30 Build, Package | 80 Function |
| 40 Assignment | 90 System |
| 50 Interface | 100 Environment |

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| --- | --- | --- | --- |
| Student | 1702861 – Sergio Osvaldo Magaña Gonzalez | Date | 14 – Sept - 2020 |
| Program | Calculo de la media y la desviacion estandar | Program # | 01 |
| Instructor | Dr. Felipe de Jesus Rodriguez García | Language | javaScript |

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| Project |  | | Date |  | Number |  | Type |  | Inject |  | Remove |  | Fix Time |  | Fix Ref. |
| Programa 1 |  | | 13.Sept |  | 01 |  | 10 |  | Planeacion |  | Planeacion |  | 10 |  | x |
| Description: | | | Comprender la documentacion, asignar un orden | | | | | | | | | | | | | | |
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| Project |  | | Date |  | Number |  | Type |  | Inject |  | Remove |  | Fix Time |  | Fix Ref. |
| Programa 1 |  | | 13.Sept |  | 02 |  | 80 |  | Codigo |  | Compilacion |  | 34 |  | X |
| Description: | | | Leer las variables y guardar en la lista | | | | | | | | | | | | | | |
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| Project |  | | Date |  | Number |  | Type |  | Inject |  | Remove |  | Fix Time |  | Fix Ref. |
| Programa 1 |  | | 13.Sept |  | 03 |  | 80 |  | Codigo |  | Compilacion |  | 40 |  | X |
| Description: | | | Defecto en la logica de leer y resolver el problema, primero me hacia la operacion y despues leia los datos capturados | | | | | | | | | | | | | | |
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| Project |  | | Date |  | Number |  | Type |  | Inject |  | Remove |  | Fix Time |  | Fix Ref. |
| Programa 1 |  | | 14-Sept |  | 04 |  | 60 |  | Codigo |  | Test |  | 15 |  |  |
| Description: | | | Defecto en imprimir los resultados | | | | | | | | | | | | | | |
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| Project |  | | Date |  | Number |  | Type |  | Inject |  | Remove |  | Fix Time |  | Fix Ref. |
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<!DOCTYPE html>

<html>

<head>

  <meta charset="utf-8">

  <meta http-equiv="x-ua-compatible" content="ie=edge">

  <title>

    ESTIMACIÓN Y PLANEACION DE SOL. COMP. B ING. DE S.

  </title>

  <meta name="description" content="">

  <meta name="viewport" content="width=device-width, initial-scale=1">

<!-- Boostrap 4-->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css" integrity="sha384-Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh" crossorigin="anonymous">

<!-- iconos -->

<script src="https://kit.fontawesome.com/86322b1947.js" crossorigin="anonymous"></script>

<!-- Barra -->

<link href="https://fonts.googleapis.com/css?family=Raleway:400,300,600,800,900" rel="stylesheet" type="text/css">

<!------ JQUERY PARA USAR AJAX ----->

<script

src="https://code.jquery.com/jquery-3.3.1.min.js"

integrity="sha256-FgpCb/KJQlLNfOu91ta32o/NMZxltwRo8QtmkMRdAu8="

crossorigin="anonymous"></script>

<link rel="stylesheet" href="css/style.css">

<!-- CSS only -->

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css" integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

<!-- JS, Popper.js, and jQuery -->

<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj" crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo" crossorigin="anonymous"></script>

<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI" crossorigin="anonymous"></script>

<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>

<script type="text/javascript" src="js/Lista.js"></script>

</head>

<body">

  <h5 >Tarea 1</h5>

  <div class="container-fluid">

    <div class="card">

      <div class="card-header">

        <section class="col-md-12">

          <section class="row">

            <div class="col-md-12">

              <p>Using PSP0, write a program to calculate the mean and standard deviation of a set of n real numbers.

                Your program can read the n real numbers from the keyboard,

                a file, or some other source. Use a linked list to store the n numbers for the calculations. If

                necessary, a variable or static array(s),

                database, or other data structure(s) may be used to hold the data. Thoroughly test the program. At

                least two tests should use the data in the columns of Table 1.

                Expected results are provided in Table 2.</p>

            </div>

            <div class="col-md-3">

              <div class="form-group">

                <input type="text" class="form-control" id="Dato" name="Dato" maxlength="128"

                  placeholder="Escribir número real" required>

              </div>

            </div>

            <div class="col-12">

              <button type="submit" class="btn btn-dark" onclick="Agregar()">Agregar</button>

            </div>

          </section>

        </section>

      </div>

      <div class="card-body">

        <!--==== SECCION DE Lista ====-->

        <div class="border bg-secondary text-white">

          <input type="text" class="form-control" id="Lista" name="Dato" maxlength="128"

            placeholder="Escribir número real">

        </div>

        <br>

        <!--==== Button ====-->

        <div class="form-row text-center">

          <div class="col-12">

            <button type="submit" class="btn btn-dark" onclick="Calcular()">Calcular</button>

          </div>

        </div>

      </div>

    </div>

  </div>

  <!-- Modal Encuesta Vacia-->

  <div class="modal fade" id="myModalVacio" tabindex="-1" role="dialog" aria-labelledby="exampleModalLabel"

    aria-hidden="true">

    <div class="modal-dialog" role="document">

      <div class="modal-content">

        <div class="modal-header">

          <h5 class="modal-title">Resultados</h5>

        </div>

        <div class="modal-body">

          <div class="border  ">

            <p>Media: <span id="Media"></span></p>

          </div>

          <hr>

          <!--==== SECCION DE Desviacion ====-->

          <div class="border ">

            <p>Desviación: <span id="Desviacion"></span></p>

          </div>

        </div>

        <div class="modal-footer">

          <button type="button" class="btn btn-dark" data-dismiss="modal">Cerrar</button>

        </div>

      </div>

    </div>

  </div>

  </body>

</html>

function list() {

    this.head = null;

    this.tail = null;

    this.long = null;

    this.createNode = function (data) { //Constructor

        return {

            data: data,

            next: null

        }

    };

    this.addNode = function (data) { //Agregar nodo

        if (this.head == null) {

            this.tail = this.createNode(data);

            this.head = this.tail;

            this.long++;

        } else {

            this.tail.next = this.createNode(data);

            this.tail = this.tail.next;

            this.long++;

        }

        this.MostrarLista();

    };

    this.printNode = function () { //Imprimir cada nodo

        var x = this.head;

        var dato="";

        while (x != null) {

            dato += x.data+"-";

            x = x.next;

        }

        return dato;

    };

    this.getMedia = function () { //Calcular la media con todos los nodos

        var x = this.head;

        let resultado = 0;

        while (x != null) {

            resultado = resultado + parseInt(x.data);

            x = x.next;

        }

        resultado = resultado / this.long;

        return resultado;

    }

    this.getDesviacionST = function () { //Calcula la desviacion estandar

        var Media = this.getMedia();

        var x = this.head;

        let Sumatoria = 0;

        let Desviacion = 0;

        while (x != null) {

            Sumatoria = Sumatoria + Math.pow((x.data - Media), 2);

            x = x.next;

        }

        Desviacion = Math.sqrt((Sumatoria / (this.long - 1)));

        return Desviacion;

    }

    this.MostrarLista = function () {//Imprime la lista en el div

        var x = this.printNode();//Trae los valores de la lista

        document.getElementById("Lista").value = x;

    }

    this.MostrarMedia = function () {

        var x = this.getMedia();

        var N\_Nodo = document.getElementById("Media");

        var newText = document.createTextNode(x);

        N\_Nodo.textContent = "";

        N\_Nodo.appendChild(newText);

    }

    this.MostrarDesviacion = function () {

        var x = this.getDesviacionST();//Muestra resultado de Desviacion

        var N\_Nodo = document.getElementById("Desviacion");

        var newText = document.createTextNode(x);

        N\_Nodo.textContent = "";

        N\_Nodo.appendChild(newText);

    }

}

const linkedList = new list();

function Agregar() {

    var dato = document.getElementById("Dato").value;

    linkedList.addNode(dato);

    document.getElementById("Dato").value = "";

}

function Calcular() {

    linkedList.MostrarMedia();

    linkedList.MostrarDesviacion();

    $("#myModalVacio").modal();

}