|  |  |  |
| --- | --- | --- |
| StreamReader lector = new StreamReader(@"STOPS2.txt"); | C1 | 1 |
| String line = lector.ReadLine(); | C2 | 1 |
| int i = 0; | C3 | 1 |
| while (line != null) | C4 | n-1 |
| String[] arregloString = line.Split(','); | C5 | n |
| String STOPID = arregloString[0]; | C6 | n |
| String PLANVERSIONID = arregloString[1]; | C7 | n |
| String SHORTNAME = arregloString[2]; | C8 | n |
| String LONGNAME = arregloString[3]; | C9 | n |
| String GPS\_X = arregloString[4]; | C10 | n |
| String GPS\_y = arregloString[5]; | C11 | n |
| double DECIMALLONGITUD = double.Parse(arregloString[6], CultureInfo.InvariantCulture); | C12 | n |
| double DECIMALLATITUD = double.Parse(arregloString[7], CultureInfo.InvariantCulture); | C13 | n |
| Stops parada = new Stops(STOPID, PLANVERSIONID, SHORTNAME, LONGNAME, GPS\_X, GPS\_y, DECIMALLONGITUD, DECIMALLATITUD); | C14 | n |
| Paradas.Add(parada); | C15 | n |
| i++; | C16 | n |
| line = lector.ReadLine(); | C17 | n |
| lector.Close(); | C18 | 1 |
|  |  | O(n) |

public void lecturaParadas()

public void separarListasDeParadas()

|  |  |  |
| --- | --- | --- |
| for (int i = 0; i < Paradas.Count; i++) | C1 | n-1 |
| if (retornarLista()[i].STOPID.Substring(0, 1).Equals("6")) | C2 | n |
| ParadasEstaciones.Add(Paradas[i]); | C3 | n |
| else if (retornarLista()[i].STOPID.Substring(0, 1).Equals("5")) | C4 | n |
| ParadasCalle.Add(Paradas[i]); | C5 | n |
|  |  | O(n) |

public List<Stops> retornarLista(){

|  |  |  |
| --- | --- | --- |
| return Paradas; | C1 | 1 |
|  |  | O(1) |

public void mostrarMarcadores(List<Stops> a) {

|  |  |  |
| --- | --- | --- |
| MessageBox.Show("Preparando para mostrar marcadores"); | C1 | 1 |
| int S = 0; | C2 | 1 |
| markerOverlayParada = new GMapOverlay("markadorParada"); | C3 | 1 |
| for (int i = 0; i < a.Count(); i++) | C4 | n-1 |
| marker = new GMarkerGoogle(new PointLatLng(a[S].DECIMALLATITUD, a[S].DECIMALLONGITUD), GMarkerGoogleType.red); | C5 | n |
| markerOverlayParada.Markers.Add(marker); | C6 | n |
| marker.ToolTipMode = MarkerTooltipMode.Always; | C7 | n |
| marker.ToolTipText = String.Format("Parada:" + a[S].SHORTNAME); | C8 | n |
| Console.WriteLine(S); | C9 | n |
| S++; | C10 | n |
| gControl.Overlays.Add(markerOverlayParada); | C11 | 1 |
| Console.WriteLine(a.Count()); | C12 | 1 |
|  |  | O(n) |

public void leerZonasCiudad(){

|  |  |  |
| --- | --- | --- |
| StreamReader lector = new StreamReader(@"ZONAS.txt"); | C1 | 1 |
| String line = lector.ReadLine(); | C2 | 1 |
| int i = 0; | C3 | 1 |
| while (line != null) | C4 | n-1 |
| String[] arregloZonas = line.Split(','); | C5 | n |
| String nom = arregloZonas[0]; | C6 | n |
| String lat = arregloZonas[1]; | C7 | n |
| String longi = arregloZonas[2]; | C8 | n |
| double latitud = double.Parse(lat, CultureInfo.InvariantCulture); | C9 | n |
| double longitud = double.Parse(longi, CultureInfo.InvariantCulture); | C10 | n |
| ZONA zone = new ZONA(nom, latitud, longitud); | C11 | n |
| Zonas.Add(zone); | C12 | n |
| i++; | C13 | n |
| line = lector.ReadLine(); | C14 | n |
| lector.Close(); | C15 | 1 |
|  |  | O(n) |

public void mostrarLista(){

|  |  |  |
| --- | --- | --- |
| for (int i = 0; i < zona0.Count; i++){ | C1 | n-1 |
| MessageBox.Show(zona0[i].longitud + " " + zona0[i].latitud); | C2 | n |
|  |  | O(n) |

public void mostrarMarcadoresZonas(){

|  |  |  |
| --- | --- | --- |
| markerOverlayZonas = new GMapOverlay("MarkadorZona"); | C1 | 1 |
| for (int i = 0; i < Zonas.Count(); i++) | C2 | n-1 |
| marker = new GMarkerGoogle(new PointLatLng(Zonas[i].latitud, Zonas[i].longitud), GMarkerGoogleType.green); | C3 | n |
| markerOverlayZonas.Markers.Add(marker); | C4 | n |
| marker.ToolTipMode = MarkerTooltipMode.Always; | C5 | n |
| gControl.Overlays.Add(markerOverlayZonas); | C6 | n |
|  |  | O(n) |

public void separarZonas(){

|  |  |  |
| --- | --- | --- |
| for (int i = 0; i < Zonas.Count; i++) | C1 | n-1 |
| if (i < 29) | C2 | n |
| zona0.Add(Zonas[i]); | C3 | n-1 |
| else if (i >= 29 && i < 62) | C4 | n |
| zona1.Add(Zonas[i]); | C5 | n-1 |
| else if (i >= 62 && i < 94) | C6 | n |
| zona2.Add(Zonas[i]); | C7 | n-1 |
| else if (i >= 94 && i < 110) | C8 | n |
| zona3.Add(Zonas[i]); | C9 | n-1 |
| else if (i >= 110 && i < 148) | C10 | n |
| zona4.Add(Zonas[i]); | C11 | n-1 |
| else if (i >= 148 && i < 158) | C12 | n |
| zona5.Add(Zonas[i]); | C13 | n-1 |
| else if (i >=158 && i <193) | C14 | n |
| zona6.Add(Zonas[i]); | C15 | n-1 |
| else if (i >= 193 && i < 205){ | C16 | n |
| zona7.Add(Zonas[i]); | C17 | n-1 |
|  |  | O(n) |

public void hacerPoligonoEstaciones(List<Stops> a)

|  |  |  |
| --- | --- | --- |
| GMapOverlay poligono = new GMapOverlay("Poligono"); | C1 | 1 |
| List<PointLatLng> puntos = new List<PointLatLng>(); | C2 | 1 |
| for (int i = 0; i < a.Count - 1; i++) | C3 | n-1 |
| puntos.Add(new PointLatLng(a[i].DECIMALLATITUD, a[i].DECIMALLONGITUD)); | C4 | n |
| GMapPolygon poligonoPuntos = new GMapPolygon(puntos, "Poligono"); | C5 | 1 |
| poligono.Polygons.Add(poligonoPuntos); | C6 | 1 |
| gControl.Overlays.Add(poligono); | C7 | 1 |
| gControl.Zoom = gControl.Zoom + 1; | C8 | 1 |
| gControl.Zoom = gControl.Zoom - 1; | C9 | 1 |
|  |  | O(n) |

public void hacerPoligonoZonas(List<ZONA> a){

|  |  |  |
| --- | --- | --- |
| GMapOverlay poligono = new GMapOverlay("Poligono"); |  | 1 |
| List<PointLatLng> puntos = new List<PointLatLng>(); |  | 1 |
| for (int i = 0; i < a.Count; i++) |  | n-1 |
| puntos.Add(new PointLatLng(a[i].latitud, a[i].longitud)); |  | n |
| GMapPolygon poligonoPuntos = new GMapPolygon(puntos, "Poligono"); |  | 1 |
| poligono.Polygons.Add(poligonoPuntos); |  | 1 |
| gControl.Overlays.Add(poligono); |  | 1 |
| gControl.Zoom = gControl.Zoom + 1; |  | 1 |
| gControl.Zoom = gControl.Zoom - 1; |  | 1 |
|  |  | O(n) |