LINQ and Control Break

Data file for button3   Data file for button4

	A	B	C	D
1	Simon Li	1234	2/3/1975	3456
2	Victor Choong	911	2/9/1975	1334
3	Sandra Lee	123	2/9/1975	4563
4	Victor Choong	911	2/13/1975	456
5	Sandra Lee	123	2/11/1975	23
6	Mary Luk	23	2/14/1975	763
7	Nelson Eng	365	2/17/1975	4425
8	Sarah Stephens	119	2/13/1975	557
9	Sarah Stephens	119	2/12/1975	44
10	Mary Luk	23	2/15/1975	7642
11	Nelson Eng	365	2/15/1975	336
12	Victor Choong	911	2/12/1975	85
13	Nelson Eng	365	2/14/1975	336
14	Ray Yu	539	2/8/1975	345
15	Jim Ng	777	2/19/1975	4563
16	Simon Li	1234	2/7/1975	3241
17	Simon Li	1234	2/4/1975	4532
18	Simon Li	234	2/5/1975	134
19	Nelson Eng	365	2/16/1975	3337
20	Jim Ng	777	2/18/1975	4562
21	Sandra Lee	123	2/10/1975	653
22	Simon Li	1234	2/6/1975	2345
23	Sandra Lee	123	2/8/1975	6435

	A	B	C	D
1	Gilbert	3375	W18	B
2	Gilbert	2200	F17	A
3	Ray	1275	S17	A
4	Sarah	3540	W18	B-
5	Gilbert	2300	F17	A+
6	Jim	2270	S16	C
7	Gilbert	3475	S16	B
8	Ray	1280	S16	A
9	Sarah	3275	S16	A-
10	Simon	2200	S17	B
11	Simon	1275	W18	C
12	Sarah	3300	W18	B
13	Simon	1280	F17	F
14	Sarah	4495	S18	C
15	Simon	1175	F17	A
16	Simon	1190	F17	A-
17	Gilbert	3300	F17	C
18	Jim	4495	S17	A
19	Sarah	3375	F18	A-
20	Jim	3270	S17	B
21	Sarah	3475	F17	A+
22	Gilbert	3540	W18	C+
23	Simon	3175	S18	C-
24	Sarah	2200	S18	A
25	Gilbert	3275	S16	B+
26	Sarah	1280	F17	B
27	Sarah	2300	F17	A
28	Sarah	1275	W18	B

Result from button3

```
Luk,Mary            23    2/14/1975      $763.00
                    23    2/15/1975    $7,642.00
sub-total $8,405.00

Stephens,Sarah     119    2/12/1975       $44.00
                   119    2/13/1975      $557.00
sub-total $601.00

Lee,Sandra         123     2/8/1975    $6,435.00
                   123     2/9/1975    $4,563.00
                   123    2/10/1975      $653.00
                   123    2/11/1975       $23.00
sub-total $11,674.00

Li,Simon           234     2/5/1975      $134.00
sub-total $134.00

Eng,Nelson         365    2/14/1975      $336.00
                   365    2/15/1975      $336.00
                   365    2/16/1975    $3,337.00
                   365    2/17/1975    $4,425.00
sub-total $8,434.00

Yu,Ray             539     2/8/1975      $345.00
sub-total $345.00

Ng,Jim             777    2/18/1975    $4,562.00
                   777    2/19/1975    $4,563.00
sub-total $9,125.00

Choong,Victor      911     2/9/1975    $1,334.00
                   911    2/12/1975       $85.00
                   911    2/13/1975      $456.00
sub-total $1,875.00

Li,Simon          1234     2/3/1975    $3,456.00
                  1234     2/4/1975    $4,532.00
                  1234     2/6/1975    $2,345.00
                  1234     2/7/1975    $3,241.00
sub-total $13,574.00

total $54,167.00
```

Program for button3

```csharp
        1 reference
        private void button3_Click(object sender, EventArgs e)
        {
            string fmt = "{0,-14}{1,8}{2,12:d}{3,12:c}";

            string[] myFile = File.ReadAllLines("c:\\temp\\linqcontrolbreakdata.csv");
            var myQuery = from myData in myFile
                          let col = myData.Split(' ', ',')
                          let first = col[0]
                          let last = col[1]
                          let id = col[2]
                          let depDate = DateTime.Parse(col[3])
                          let depAmt = double.Parse(col[4])
                          orderby int.Parse(id), depDate
                          select new { first, last, id, depDate, depAmt };
            lstDeposit.Items.Clear();
            bool firstRec = true;
            string prevID = "";
            double amt =0, totalAmt =0;
            foreach(var rec in myQuery)
            {
                if (firstRec)
                {
                    lstDeposit.Items.Add(string.Format(fmt, rec.last + "," + rec.first,
                        rec.id, rec.depDate, rec.depAmt));
                    firstRec = false;
                    prevID = rec.id;
                    amt = rec.depAmt + amt;
                    totalAmt = totalAmt + rec.depAmt;
                }
                else
                {
                    if (prevID==rec.id)
                    {
                        lstDeposit.Items.Add(string.Format(fmt, "",
                            rec.id, rec.depDate, rec.depAmt));
                        amt = rec.depAmt + amt;
                        totalAmt = totalAmt + rec.depAmt;
                    }
                    else
                    {
                        lstDeposit.Items.Add("sub-total " + amt.ToString("c"));
                        lstDeposit.Items.Add("");
                        lstDeposit.Items.Add(string.Format(fmt, rec.last + "," + rec.first,
                            rec.id, rec.depDate, rec.depAmt));
                        amt = rec.depAmt;
                        totalAmt = totalAmt + rec.depAmt;
                        prevID = rec.id;
                    }
                }
            }
            lstDeposit.Items.Add("sub-total " + amt.ToString("c"));
            lstDeposit.Items.Add("");
            lstDeposit.Items.Add("total " + totalAmt.ToString("c"));
        }
```

Output from button4

Name	Term	Course	Grade
Gilbert	S16	3275	B+
	S16	3475	B
	F17	2200	A
	F17	2300	A+
	F17	3300	C
	W18	3375	B
	W18	3540	C+
Jim	S16	2270	C
	S17	3270	B
	S17	4495	A
Ray	S16	1280	A
	S17	1275	A
Sarah	S16	3275	A-
	F17	1280	B
	F17	2300	A
	F17	3475	A+
	W18	1275	B
	W18	3300	B
	W18	3540	B-
	S18	2200	A
	S18	4495	C
	F18	3375	A-
Simon	S17	2200	B
	F17	1175	A
	F17	1190	A-
	F17	1280	F
	W18	1275	C
	S18	3175	C-

Program for button4

```csharp
                    1 reference
147            private void button4_Click(object sender, EventArgs e)
148            {
149                string fmt = "{0,-10}{1,10}{2,10}{3,10}";
150                string[] myFile = File.ReadAllLines("c:\\temp\\linqcontrolbreak.csv");
151                var myQuery = from myData in myFile
152                              let col = myData.Split(',')
153                              let name = col[0]
154                              let course = col[1]
155                              let term = col[2]
156                              let grade = col[3]
157                              orderby name, term.Substring(1), term[0] descending, course
158                              select new { name, course, term, grade };
159                lstDeposit.Items.Clear();
160                bool firstRec = true;
161                string prevName = "";
162                foreach(var rec in myQuery)
163                {
164                    if (firstRec)
165                    {
166                        firstRec = false;
167                        prevName = rec.name;
168                        lstDeposit.Items.Add(string.Format(fmt, "Name", "Term", "Course", "Grade"));
169                        lstDeposit.Items.Add(string.Format(fmt, rec.name, rec.term, rec.course, rec.grade));
170                    }
171                    else
172                    {
173                        if (prevName == rec.name)
174                        {
175                            lstDeposit.Items.Add(string.Format(fmt, "", rec.term, rec.course, rec.grade));
176                        }
177                        else
178                        {
179                            lstDeposit.Items.Add("");
180                            lstDeposit.Items.Add(string.Format(fmt, rec.name, rec.term, rec.course, rec.grade));
181                            prevName = rec.name;
182                        }
183                    }
184                }
185            }
186        }
187    }
188
```