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Beginner's Guide

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You can insert data from files into zone, text and barcode objects on your form, and dynamically merge the data when the form is printed. For this form we'll use a data file to pre-fill the Student Name, Student Number and Test Number.

Save this .txt file to the folder where the form is saved.

Date


The Date field is made up of 4 OMR zones. Mth is a Random Zone, the other three Matrix. As the Random zone can't be assigned a frame, we will use a combination of frames and graphic objects to create this group.

Day	Mth	Yr
10	1	Jan-Jul
20	2	Feb-Aug
30	3	Mar-Sep
4	4	Apr-Oct
5	5	May-Nov
6	6	Jun-Dec
7	.	.
8	.	.
9	.	.

- Create a "short" zone of 9 choices starting in **Channel 16, Row 1**.
- Open **Properties** and name the choices **10 to 18**.
- Check that the settings are as below.

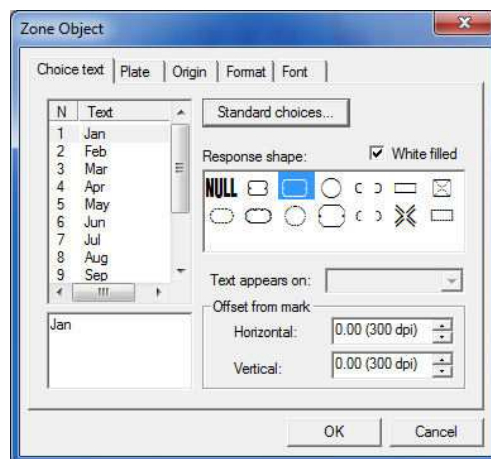
- On the **Frame** tab untick all three choices.
- Click **OK**.

.	.	.	.	10
.	.	.	.	11
.	.	.	.	12
.	.	.	.	13
.	.	.	.	14
.	.	.	.	15
.	.	.	.	16
.	.	.	.	17
.	.	.	.	18

- Select the Random zone tool  from the toolbar. This zone contains 12 choices in two rows, each created with individual clicks. Create two rows of 6, in the order below.

• • 1 7 10
 • • 2 8 11
 • • 3 9 12
 • • 4 10 13
 • • 5 11 14
 • • 6 12 15
 • • • • 16
 • • • • 17
 • • • • 18

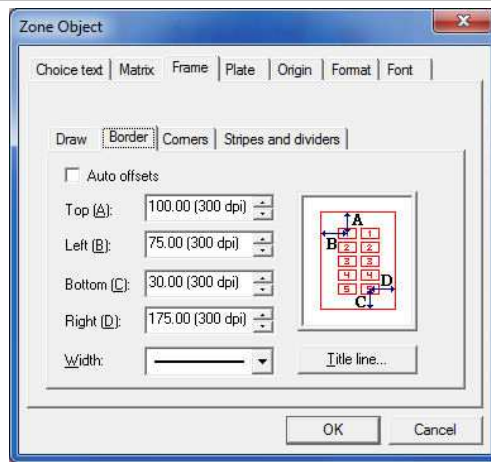
- Name the choices in short month format (**Jan, Feb ... Nov, Dec**).
- Set the **Response shape** to the second right from NULL.



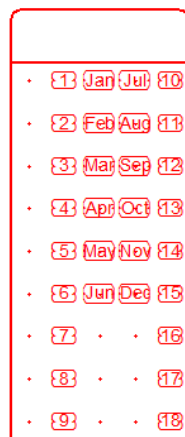
- On the **Format** tab, set **Horizontal alignment** to **Center**.
- Click **OK**.

• • Jan Jul 10
 • • Feb Aug 11
 • • Mar Sep 12
 • • Apr Oct 13
 • • May Nov 14
 • • Jun Dec 15
 • • • • 16
 • • • • 17
 • • • • 18

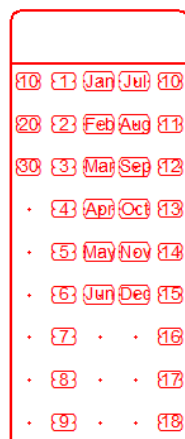
- Create a "short" zone with 9 choices in **Channel 19**.
- Open **Properties** and select **Numbers (from 1)** in Standard choices...
- Change the **Response shape** back to the shape to the right of NULL.
- On the **Frame** tab, select **Border**, but untick **Dividing lines** and **Stripes** if selected. The Border of this zone will be used to cover the other three zones so the **Offsets** need to be changed. Change the settings as below.




- In **Title line** set to **Top**.
- Click **OK**.



- Create a "short" zone of 3 in the empty Channel.
- Open **Properties** and name the choices **10**, **20**, **30**.
- Click **OK**.



- Since the zone containing the Frame for the group is a single column, it's not possible to use the **Dividing lines** in the **Frame** tab. Two **Lines** (Graphic Objects) can be used to create the Dividing lines instead.
- Select the Vertical line tool  in the toolbar. The mouse pointer changes to a cross hair. Draw a line between "Month" and "Day".

10	1	Jan	Jul	10
20	2	Feb	Aug	11
30	3	Mar	Sep	12
4	4	Apr	Oct	13
5	5	May	Nov	14
6	6	Jun	Dec	15
7	+			16
8	.	.	.	17
9	.	.	.	18

- Extend the line to the bottom and top border. You can change the **Nudge** distance to **1 (300 dpi)** for fine tuning the placement.
- Open **Properties** and change **Plate** to **Blind**.
- Copy and Paste the line, or draw another line, and place it between "Month" and "Year".
- Add three text objects ("Day", "Mth", "Yr") in the title space above the group. If they appear in Red, change **Plate** to **Black** in **Properties**.

Day	Mth	Yr
10 1	Jan Jul	10
20 2	Feb Aug	11
30 3	Mar Sep	12
4 4	Apr Oct	13
5 5	May Nov	14
6 6	Jun Dec	15
7	.	16
8	.	17
9	.	18

Top

Constant text objects

Student					
x					
00	00	00	00	00	00
11	11	11	11	11	11
22	22	22	22	22	22
33	33	33	33	33	33
44	44	44	44	44	44
55	55	55	55	55	55
66	66	66	66	66	66
77	77	77	77	77	77
88	88	88	88	88	88
99	99	99	99	99	99

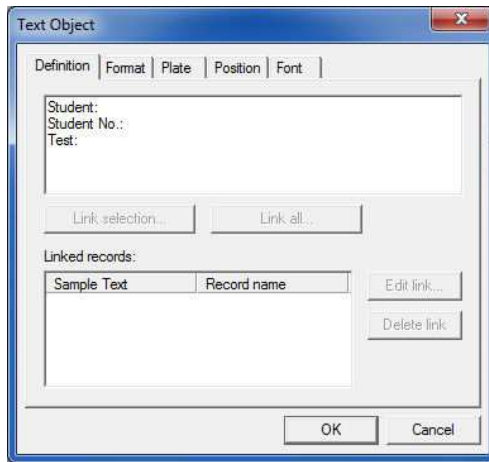
- The text is now centered over the zone.



Student					
00	00	00	00	00	00
11	11	11	11	11	11
22	22	22	22	22	22
33	33	33	33	33	33
44	44	44	44	44	44
55	55	55	55	55	55
66	66	66	66	66	66
77	77	77	77	77	77
88	88	88	88	88	88
99	99	99	99	99	99

- Do the same for **Test** and **Date** zone.

Add the text field "Student: / Student no.: / Test:"

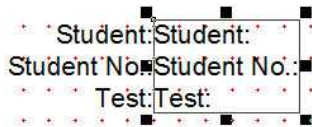
- Use the text tool to create the object. In **Definition** type the three lines.



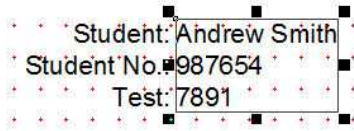
- Set **Horizontal alignment** to right in **Format** tab. Set the **Line spacing** to **Exact: 60 (300 dpi)**.
- Set **Plate** to black.
- Set **Font size** to **12**.
- Click **OK**.
- With the Text object selected click , the mouse pointer changes to a hand. Select the left edge of the first **Q1-Q125** zone. The object aligns with the other zones in the left column..
- Click  and align the object to the **Student** zone.

To create the sample text (to be substituted from the data file):

- Copy and paste the text object. The copied object is placed on top of the first object.
- Open **Properties** and change the **Horizontal alignment** (on the **Format** tab) to **Left**. This moves the text object. If it is too close to the constant text object, use Nudge to move slightly to the right.



- Open **Properties** again. Change the text to a sample of the text that will appear on the form.



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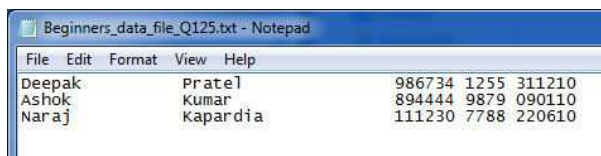
Preparing Data Files

FoD-OMR can use data files in three distinct 'formats':

- *Fixed* data files have the same data field always at the same location on each line in the data file.
- *Delimited* data files have their fields separated by a character known as a *delimiter*.
- *Delimited named* data files are like the *Delimited* data files in that the fields are separated by a delimiter. They also have a header line which allows more flexibility in forms design.

This Beginner's Guide uses a *Fixed* data file. [More information on Merging Data Files can be found in the manual.](#)

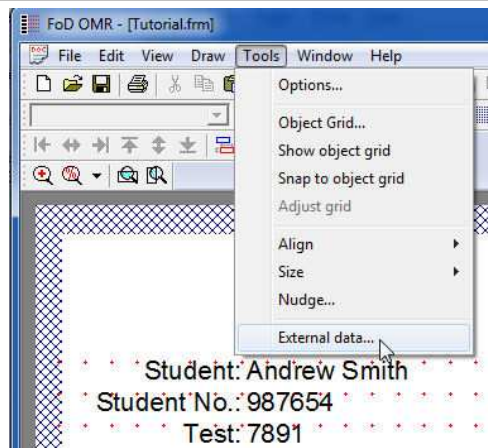
Open the text file provided. The fields in the file all have the same starting point, but not always the same length. Student and Test (and Date, not used in this form) are always the same length, but Name varies in length.



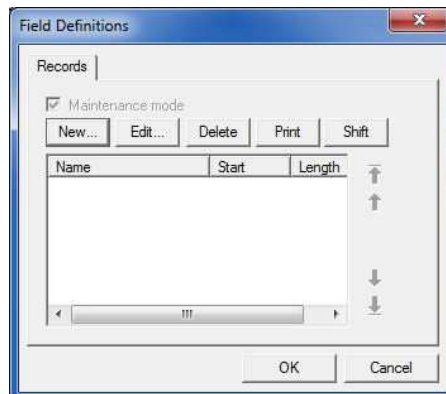
You can set up the fields prior to linking, or as needed by creating fields through linking objects (text, zone, barcode objects).

To set up the fields before linking:

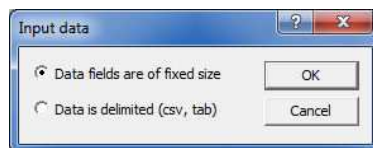
- You need the first 4 records of this file, Name, Surname, StudentNo and Test.
- Count the characters (and space) for each field to determine the length of each.
- In the **Tools** menu, select **External data....**



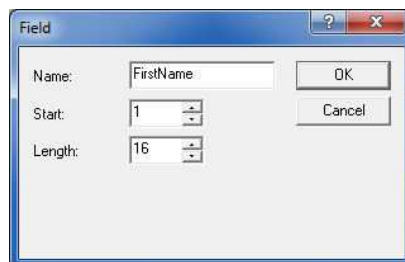
- This opens **Field definitions** dialog box. Click **New**.



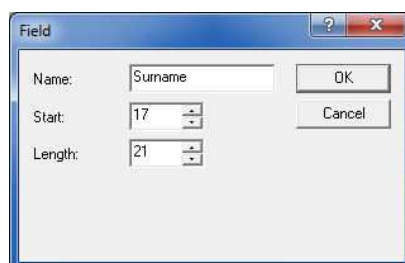
- FoD-OMR asks you what type of input data used. Select **Data fields are of fixed size**.



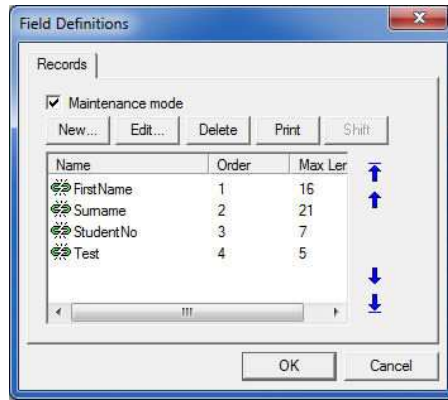
- The **Field** dialog box opens. Type in your first field, "FirstName", and set the length of the first record in the text file. Click **OK**.



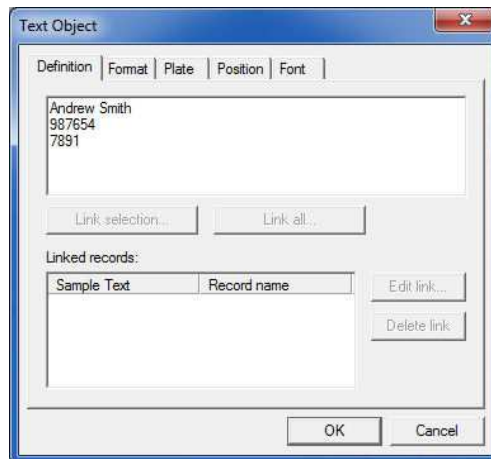
- Click **New** again and add "Surname". The **Start** point changes automatically to accommodate the fields created prior.



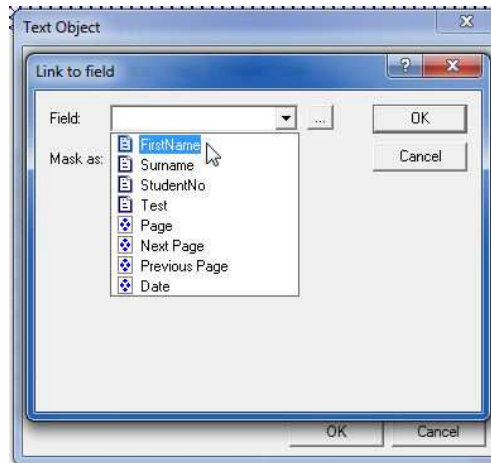
- Add "StudentNo" and "Test".




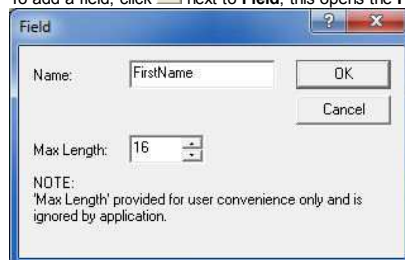
- Your fields are now available to link. The symbol to the left of the name is a green "broken link". This signifies that the field hasn't yet been linked.
- Below are the instructions on creating fields as you need them and it's also the method of linking previously created fields to text. Delete the fields created, as we'll recreate them later.
- Open the sample text **Properties**. Mark the "FirstName" only, and click **Link selection...**



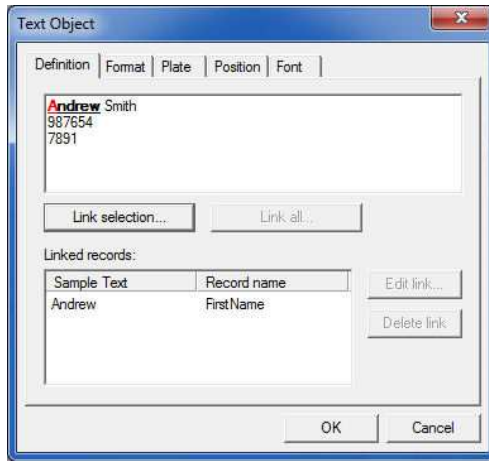
- This opens the **Link to field** dialog box. If you have created the fields previously they will appear in the drop down menu.



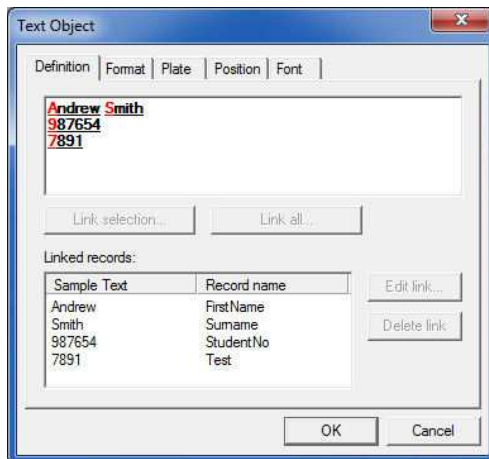
- Since the fields were deleted, the list only contains the predefined fields (such as **Page**, **Date** etc).
- To add a field, click  next to **Field**, this opens the **Field** dialog box. Type **FirstName** and change the **Max Length** to **16**.



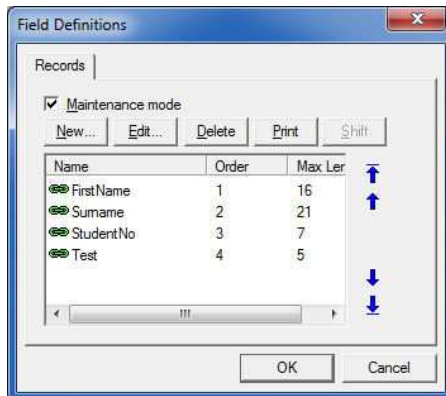
- Click **OK**. Click **OK** in the **Link to field** dialog box.



- The linked text is highlighted and the field is available in the **Linked records** list, where you can edit the link (or delete it).
- Link the remaining fields.



- Click **OK**.
- Open **External data...** from the **Tools** menu. The "broken link" has now changed to an "unbroken link" symbol.




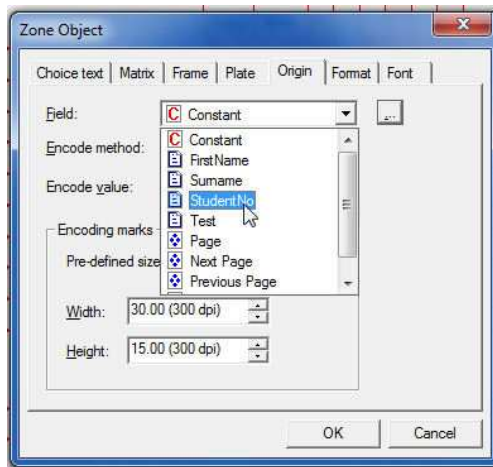
- If you have added the **Fields** in a different order to how they appear in the data file, you can change the **Order** and **Max Length** in **Field Definitions**.

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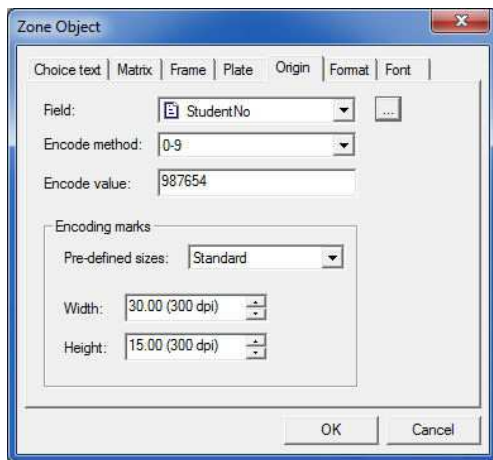
Student

You can now use the Fields created to pre-fill some of the OMR zones.

- Open **Properties** of the Student zone.
- Linking a zone to a field is done in the **Origin** tab of the **Zone Properties**. Default setting is **Constant**. To create a new field, click the  button and proceed as before when creating a field. As we have already created **StudentNo**, select it from the drop down menu.

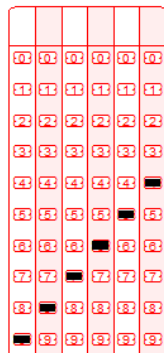


- On **Encoding method** select **0-9**.
- In **Encoding value**, you can enter a sample value, to see on the form (prior to printing) how the printed form will appear. Enter 6 numbers to "pre-slug" the zone.
- Select the **Standard** size of **Encoding marks**.

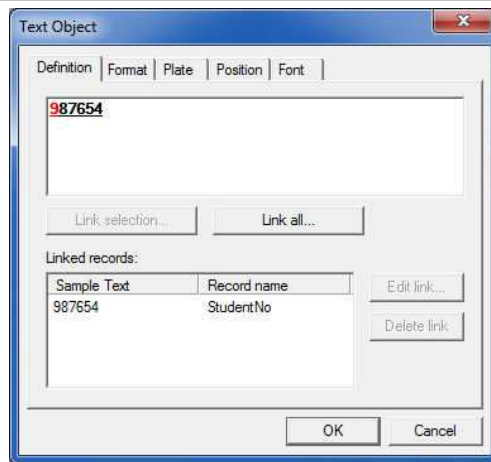


- Click **OK**.

Student



- If the Student number should appear in the Title line of the zone, copy the "Student" text object and place it in the title line. Change the definition to a sample Student Number.
- Link the text to **StudentNo**.



Student




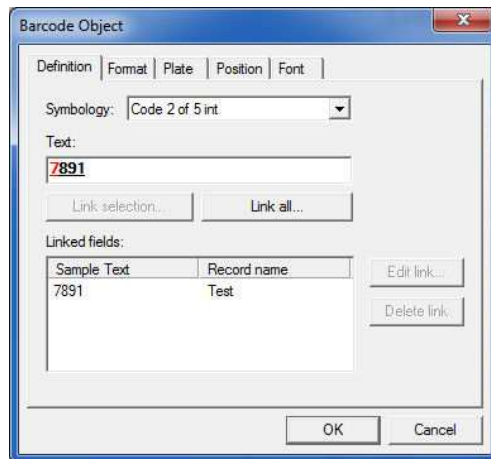
- It's not possible to change the spacing of the text substituted from a data file, so the Student Number is centered in the Title line.
- Link the **Test** zone to the Test record.

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Barcode

To add a barcode:

- Click , and drag the mouse pointer where you want to place the barcode. The **Barcode** dialog box opens.



- Set **Symbology** to **Code 2 of 5 int**.
- Click **Link all...** and link to **Test**.
- Click **OK**.
- Adjust the size of the barcode if needed by dragging the black handles that appear around the barcode when selected.



- Adjust the position of the barcode if needed.

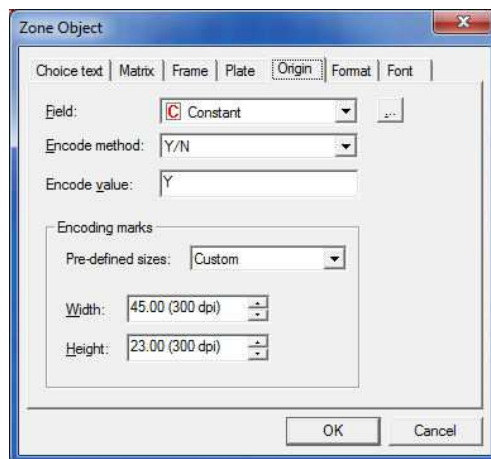


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ID Mark

The **ID Mark** is used by the scanner to determine how to read the form.

- Create a single Matrix Zone to the immediate left of the second last Timing Mark.
- In **Text** type "ID Mark".
- Set the response shape to the shape to the shape immediate right of NULL.
- Set a **negative Horizontal offset** (-100.00) to place the text to the left of the zone.
- Untick all choices on the **Frame** tab.
- Set **Plate** to **Blind**.
- On **Origin** tab, set **Field** to **Constant**, the **Encoding Method** to **Y/N**, and set **Encoding value** to **Y**.
- Choose **Custom** in **Pre-defined sizes**. Set **Width** to **45**, and **Height** to **23** (the same as the Timing Marks).




- Set **Font size** to **9**.
- Click **OK**.

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Binary Codes Decimal 1,2,4,8...

Binary numbers are used to show data on OMR forms.

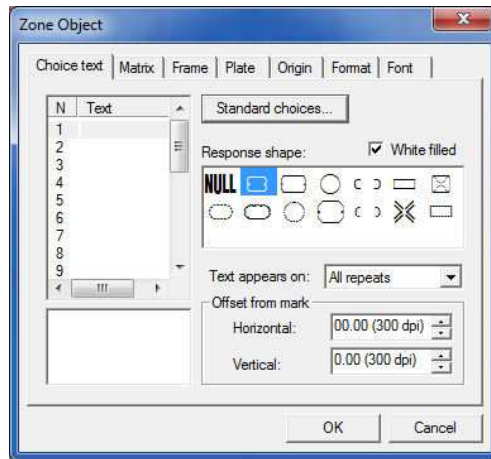
To create the 20 Choice "short" zone directly underneath the **Question** zones, you need three mouse clicks.

- Select  from the toolbar.
- Check the Status Bar to make the first mouse click in **Channel 45, Row 36**.
- Place the second click to the right (Channel 46), and the final, making the count 20, in **Channel 26, Row 36**.

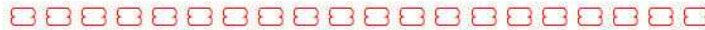


- Open **Properties** and tick **White filled** if not already selected.

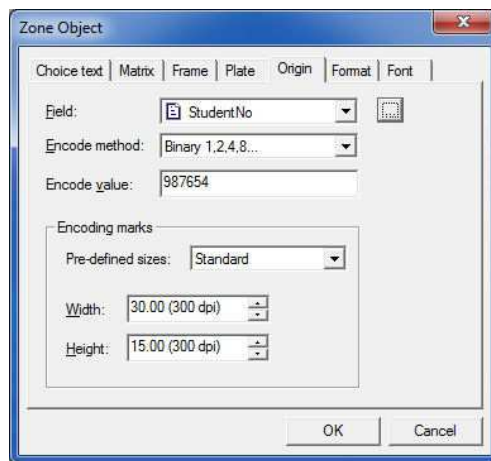
- Set **Offset from mark** (both Horizontal and Vertical) to **0.00**.
- Check that the **Response shape** is set to the shape to the right of NULL.



- Click **OK**.



- Open **Properties**, and select the **Origin** tab.
- Select **StudentNo** from the drop down menu.
- Select **BCD 1,2,4,8...** in **Encoding method**, and type in the sample value in **Encoding value**.



- Click **OK**.



- Add the Constant text "Binary: Student987654 (6 digit maximum)". Use the alignment tools to place the text.

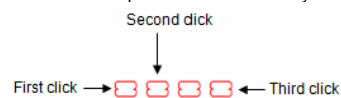
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

Binary Codes Decimal Same Plane Zone (1, 2, 4, 8)

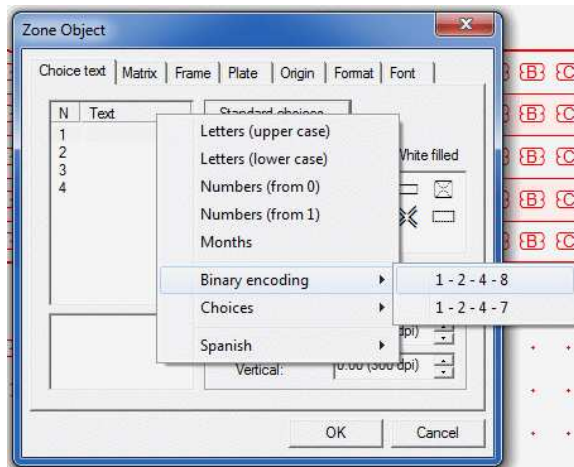
This is another zone that can be used to show data, or can be marked for single digits in less space.

When both Choices and Repeats are in the same plane (Channel or Row), zones are called "Same Plane Zones". [More information can be found in the manual](#). This is set up in **Properties** of the zone.

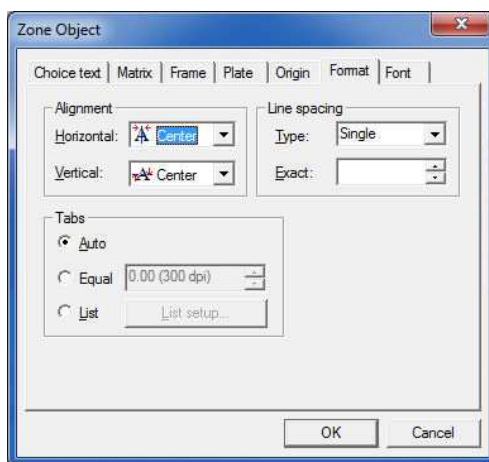
Set up a "Short" zone up of 4 choices. For this you need three mouse clicks.



- Right click to finish the zone.
- Open **Properties**.
- Set the **Response shape** to the fourth from NULL  .
- In **Standard choices...** select **Binary encoding, 1-2-4-8**.



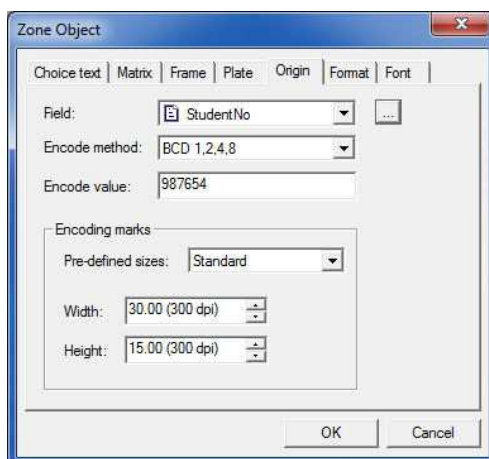
- On the **Matrix** tab, check the **Horizontal origin** is set to 3, and **Vertical origin** is set to 37.
- Leave **Choices: Count** and **Spacing** as is, and set **Repeats: Count** to 6, and **Spacing** to 5. Make sure **Repeats** are **Horizontal**.
- On the **Frame** tab, leave all three choices unselected.
- Make sure **Plate** is set to **Blind**.
- On the **Format** zone, set **Horizontal alignment** to **Center** and the **Line spacing** to single.



- On the **Font** tab, change the **Size** to 6.
- Click **OK**.

• C1DC2DC4DC8D • C1DC2DC4DC8D • C1DC2DC4DC8D • C1DC2DC4DC8D • C1DC2DC4DC8D • C1DC2DC4DC8D

- Open **Properties**, and select the **Origin** tab.
- Select **StudentNo** from the drop down menu.
- Select **BCD 1,2,4,8** in **Encoding method**, and type in the sample value in **Encoding value**.



- Click **OK**.


• 00C2DC4D00 • C1DC2DC4D00 • 000000DC8D • C1D000DC8D • 00C2D00DC8D • C1DC2D00DC8D

- Add the Constant text "BCD 1 2 4 8: Student987654".

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Binary Coded Decimal Random Zone (1, 2, 4, 7)

The last two rows of zones are best done by using a Random zone. [For more information on Random Zones see the manual.](#)

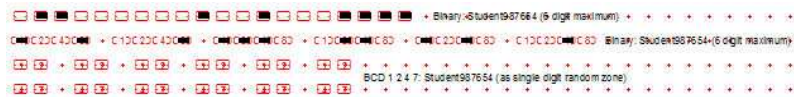
- Select the Random zone icon .
- With four mouse clicks create a zone of four.

First click → * ← Second click
Third click → * ← Fourth click

- Right click to complete the zone.



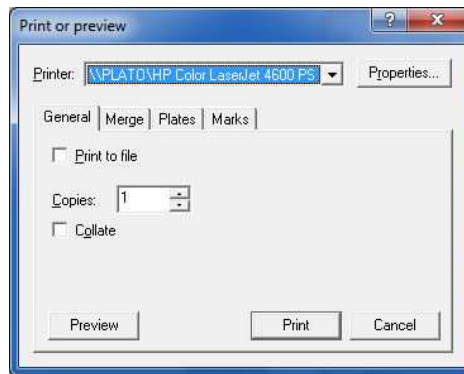
- As this is a Random zone you have to right click and select **Properties** to open the Properties dialog box. Open **Properties**.
- Select **Binary encoding, 1-2-4-7** in **Standard choices...**
- Check the **Plate** is set to **Blind**.
- Click **OK**.
- There is no tab available in **Properties** to adjust the placement of the zone, so do this manually.
- **Copy** and **Paste** the zone until there are **6** groups of **4**.
- As this is a random zone, you cannot prefill this from a data file.
- Add the Constant text "BCD 1 2 4 7: Student987654 (as single digit random zone)".



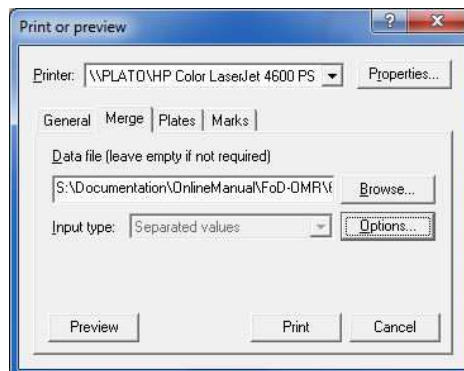
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Printing the form with merged data

Now that all elements on the form have been defined, it's time to print it with the **data file**. The linked objects will be replaced by the values in the data file. The data file used is defined in **File** menu, **Print...**, (shortcut ctrl + p).



- Select the **Merge** tab.
- To define the data file used, click **Browse...** and find the .txt file saved earlier.



- Confirm which printer to use, then click **Print**.

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