

## Ad Flyer Page Creation

Our client ICN runs a small chain of grocery stores and is looking for a database solution to streamline their workflow. The particular piece of workflow they are trying to improve is the creation of their Sunday Ad Flyers.

The Ad Flyer is a physical and digital piece of media which is created weekly. Each Sunday a new Ad Flyer is placed in-stores and mailed to residents within a certain radius of each store. Each Ad Flyer has a name and unique alphanumeric code to identify the Ad Flyer. It also has a start and end date for when the sales in the Ad Flyer are good for. An Ad Flyer also has a type such as weekly or 3-day Ad Flyer. Typically this is one week, Sunday to Saturday, however they do run specials such as on Black Friday which do not run for a whole week. As well as longer running Ad Flyers for newly opened stores.

Each Ad Flyer contains some number of pages. On an average week ICN produces Ad Flyers with 6 pages, but this can go up and down depending on the offers for that week. Each page has a height and width for printing and an order to ensure the pages show correctly in the final product. ICN has a planning team which determines how much space each department of the store gets to show of their offers. The planning team does this by creating boxes or sections on a page in a grid-like layout. Each box is assigned a name to be easily identifiable and a department. This lets the department know which box is theirs. The boxes or sections are of varying size and must be tracked for reporting purposes.

ICN creates offers which represent the 'on sale' items customers will see in the store. For example "\$1.00 off Potato Chips". Each offer has a name and a unique numeric identifier. It has a status for tracking purposes, and a type. It also holds the discount type and discount amount. For example it could be \$1 off where dollar is the type, 1 is the amount or it could be 50% off where percent is the type and 50 is the amount. Each offer also has a list of items for which the discount is applied to. Each item has a unique numeric identifier, a name, a cost, a retail, and a supplier. The 'on sale' price should also be tracked in the system for each item.

ICN would also like the ability to run some reports off of the new database solution.

1. Offers Report
  - a. List all offers which are approved and start within the next 3 weeks. Show Offer Name, Number of items in the offer, discount type, discount amount, the user who created the offer, when the offer was created, the offer type
2. Box or Section Report
  - a. For a specific Ad Flyer, list each box with its name and the name of the offer, if it has one, that is tied to the box or section
3. Item Report
  - a. For a specific Ad Flyer, list all the items inside of the Ad Flyer. Including the offer number and name, item number, description, cost, 'on-sale' price, and margin.
    - i.  $\text{Margin} = \text{'on-sale' price} - \text{cost}$
4. Ad Flyer Department Page Report

- a. For a specific Ad Flyer, show the percentage of area each department has for the Ad Flyer. Calculate the area of each of the boxes or sections a department has, and divide it by the total area of the pages in the Ad flyer

Please come up with 4 more questions to pull insights from the database using SQL queries we can suggest to ICN