

# Basket Analysis for Rob's Market

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This report contains data collected on 1000 customer purchase items on: Bread, Jelly, Peanut Butter. It will examine some probability results and frequency breakdowns of items.

Table 1: Brief preview of Data

Bread	Jelly	Peanut.Butter
white	grape	none
white	strawberry	none
none	none	none
white	none	none
wheat	none	none
none	none	none

## Frequency breakdown by items and their type

Table 2: Frequency of Bread

item	count	percent	cum_count	cum_percent
white	461	0.461	461	0.461
none	375	0.375	836	0.836
wheat	164	0.164	1000	1.000

Table 3: Frequency of Jelly Type

item	count	percent	cum_count	cum_percent
none	574	0.574	574	0.574
grape	348	0.348	922	0.922
strawberry	78	0.078	1000	1.000

Table 4: Frequency of Peanut Butter Type

item	count	percent	cum_count	cum_percent
none	671	0.671	671	0.671
creamy	228	0.228	899	0.899
natural	101	0.101	1000	1.000

## Probability Analysis

1. The probability that a random customer does not purchase any of the three products (bread, jelly, or peanut butter).

## [1] 0.278

2. The probability that a random customer purchases white bread.

## [1] 0.461

3. The probability that a random customer purchases wheat bread.

## [1] 0.164

4. The probability that a random customer purchases grape jelly given that he or she purchases white bread.

## [1] 0.6637744

5. The probability that a random customer purchases strawberry jelly given that he or she purchases white bread.

## [1] 0.0824295

6. The probability that a random customer purchases creamy peanut butter given that he or she purchases white bread.

## [1] 0.4034707

7. The probability that a random customer purchases natural peanut butter given that he or she purchases white bread.

## [1] 0.1171367

8. The probability that a random customer purchases creamy peanut butter given that he or she purchases wheat bread.

## [1] 0.1036585

9. The probability that a random customer purchases natural peanut butter given that he or she purchases wheat bread.

10. The probability that a random customer purchases white bread, grape jelly, and creamy peanut butter.

## [1] 0.124

## Analysis

Looking through the probability analysis we see grape jelly has a high probability of being sold when white bread is purchased. It would be a good idea to display these two products to help drive sales.