

<b>number_of_new_users_per_month()</b>	
<b>Data</b>	
<b>Table</b>	<b>Columns</b>
Users	'signupTime', 'userId'
<b>Properties</b>	
dropped 'Nan' and 'None' values from 'signupTime' in Users	
<b>Actions</b>	
performing count() operation on 'userId', grouped by year and month in 'signupTime'	
sorting 'signupTime' by year and month	
<b>Axes</b>	
x: year and month of registration	
y: number of registrations	

<b>number_of_conversions_per_month()</b>	
<b>Data</b>	
<b>Table</b>	<b>Columns</b>
Conversions	'timestamp'
<b>Properties</b>	
dropped 'Nan' and 'None' values from 'timestamp' in Conversions	
<b>Actions</b>	
performing count() operation on rows grouped by year and month	
sorting 'timestamp' by year and month	
<b>Axes</b>	
x: year and month of conversion	
y: number of conversions	

## number\_of\_items\_purchased\_per\_month()

### Data

Table	Columns
Conversions	'timestamp', 'quantity'

### Properties

dropped 'Nan' and 'None' values from 'timestamp' and 'quantity' in Conversions

### Actions

performing sum() operation on 'quantity', grouped by year and month of conversion

sorting 'timestamp' by year and month

### Axes

x: year and month of conversion

y: number of purchased items

## income\_per\_month()

### Data

Table	Columns
Conversions	'timestamp', 'price'

### Properties

dropped 'Nan' and 'None' values from 'timestamp' and 'price' in Conversions

### Actions

performing sum() operation on 'price', grouped by year and month of conversion

sorting 'timestamp' by year and month

### Axes

x: year and month of conversion

y: income

## number\_of\_items\_purchased\_per\_user\_in\_the\_first\_week\_after\_sign\_in()

### Data

Table	Columns
Conversions	'timestamp', 'userId', 'quantity'
Users	'signupTime', 'userId'

### Properties

dropped 'Nan' and 'None' values from 'timestamp', 'userId', 'quantity' in Conversions

dropped 'Nan' and 'None' values from 'signupTime', 'userId' in Users

### Actions

joining Conversions and Users on 'userId'

adding additional column to joined structure: 'week\_after' - date week after signing in

filtering 'timestamp' - rows only with 'timestamp' <= 'week\_after' preserved

performing sum() operation on 'quantity', grouped by 'userId'

### Axes

x: user id

y: quantity of purchased products

## number\_of\_items\_purchased\_from\_particular\_category\_grouped\_by\_count ry(category)

### Data

Table	Columns
Conversions	'itemId', 'userId', 'quantity'
Items	'itemId', 'category'
Users	'userId', 'registerCountry'

### Properties

dropped 'Nan' and 'None' values from 'category' in Items

dropped 'Nan' and 'None' values from 'quantity' in Conversions

dropped 'Nan' and 'None' values from 'registerCountry' in Users
<b>Actions</b>
joining Items and Conversions on 'itemId' and futher with Users on 'userId'
filtering joined data on 'category' property
performing sum on 'quantity' in rows grouped by 'registerCountry'
<b>Axes</b>
x: country
y: number of purchased items

<b>number_of_items_purchased_in_particular_country_grouped_by_category(country)</b>	
<b>Data</b>	
<b>Table</b>	<b>Columns</b>
Conversions	'itemId', 'userId', 'quantity'
Items	'itemId', 'category'
Users	'userId', 'registerCountry'
<b>Properties</b>	
dropped 'Nan' and 'None' values from 'category' in Items	
dropped 'Nan' and 'None' values from 'quantity' in Conversions	
dropped 'Nan' and 'None' values from 'registerCountry' in Users	
<b>Actions</b>	
joining Items and Conversions on 'itemId' and futher with Users on 'userId'	
filtering joined data on 'country' property	
performing sum on 'quantity' in rows grouped by 'category'	
<b>Axes</b>	
x: category	
y: quantity	

## number\_of\_purchased\_items\_grouped\_by\_categories\_in\_all\_countries()

### Data

Table	Columns
Conversions	'itemId', 'userId', 'quantity'
Items	'itemId', 'category'
Users	'userId', 'registerCountry'

### Properties

dropped 'Nan' and 'None' values from 'category' in Items

dropped 'Nan' and 'None' values from 'quantity' in Conversions

dropped 'Nan' and 'None' values from 'registerCountry' in Users

### Actions

TODO

### Axes

x: category

y: country

## number\_of\_purchased\_items\_after\_seeing\_campaigns\_grouped\_by\_categories()

### Data

Table	Columns
Conversions	'itemId', 'userId', 'quantity'
Users_Ads	'itemId', 'category'
Users	'userId', 'registerCountry'
Items	

### Properties

dropped 'Nan' and 'None' values from 'timestamp' in Conversions

dropped 'Nan' and 'None' values from 'signupTime' in Users

dropped 'Nan' and 'None' values from 'utmCampaign' in Users_Ads
dropped 'Nan' and 'None' values from 'category' in Items
<b>Actions</b>
TODO
<b>Axes</b>
x: category
y: utmCampaign

<b>average_number_of_purchased_items_during_the_first_month_after_signing_in()</b>	
<b>Data</b>	
<b>Table</b>	<b>Columns</b>
Conversions	'userId', 'timestamp', 'quantity'
Users	'userId', 'signupTime'
<b>Properties</b>	
dropped 'Nan' and 'None' values from 'timestamp' and 'quantity' in Conversions	
dropped 'Nan' and 'None' values from 'signupTime' in Users	
<b>Actions</b>	
TODO	
<b>Axes</b>	
x: day after signing in	
y: average quantity	