# SQL Request from Yandex Practicum course project.

Implementation in Python with usage of vizualization.

ROI visualization

In [1]:
```
import pandas as pd
%load_ext sql
%sql postgresql://postgres:sqltest123@localhost/1
```

In [ ]:
```
%%sql result <<
SELECT
ord.dt,
ROUND(revenue * 100 / costs) AS ROI
FROM
(SELECT DATE_TRUNC('month', created_at)::date AS dt,
       SUM(costs) AS costs
FROM tools_shop.costs
GROUP BY dt) AS co
LEFT JOIN
(SELECT DATE_TRUNC('month', paid_at)::date AS dt,
       SUM(total_amt) AS revenue
FROM tools_shop.orders
GROUP BY dt) AS ord ON co.dt = ord.dt
ORDER BY 1
LIMIT 12
```

In [3]:
```
#displaying results for SQL request
df = result.DataFrame()
display(df.head(12))
```

| | dt | roi |
|---|---|---|
| 0 | 2016-03-01 | 383 |
| 1 | 2016-04-01 | 278 |
| 2 | 2016-05-01 | 357 |
| 3 | 2016-06-01 | 327 |
| 4 | 2016-07-01 | 318 |
| 5 | 2016-08-01 | 327 |
| 6 | 2016-09-01 | 337 |
| 7 | 2016-10-01 | 322 |
| 8 | 2016-11-01 | 303 |
| 9 | 2016-12-01 | 328 |
| 10 | 2017-01-01 | 373 |
| 11 | 2017-02-01 | 312 |

In [4]:
```
import pandas as pd
import seaborn as sb
```

```
import matplotlib.pyplot as plt
plot = sb.barplot(data=df,
                  x='dt',
                  y='roi').set(title='ROI % per month')
plt.xticks(rotation=45)
plt.show()
```