1. **Conversion Rate**

Below you see a table of the actions of customers visiting the website by clicking on two different types of advertisements given by an E-Commerce company. Write a query to return the conversion and cancellation rates for each Advertisement type.

**Actions:**

|  |  |  |
| --- | --- | --- |
| **Visitor\_ID** | **Adv\_Type** | **Action** |
| **1** | **A** | **Left** |
| **2** | **A** | **Order** |
| **3** | **B** | **Left** |
| **4** | **A** | **Order** |
| **5** | **A** | **Review** |
| **6** | **A** | **Left** |
| **7** | **B** | **Left** |
| **8** | **B** | **Order** |
| **9** | **B** | **Review** |
| **10** | **A** | **Review** |

**Desired Output:**

|  |  |
| --- | --- |
| **Adv\_Type** | **Conversion\_Rate** |
| **A** | **0.33** |
| **B** | **0.25** |

1. **Create above table (Actions) and insert values,**

CREATE TABLE Actions

(

Visitor\_ID int,

Adv\_Type VARCHAR(10),

Action\_m VARCHAR(10 ),

);

INSERT INTO Actions (Visitor\_ID, Adv\_Type,Action\_m)

VALUES

(1,'A','Left'),

(2,'A','Order'),

(3,'B','Left'),

(4,'A','Order'),

(5,'A','Review'),

(6,'A','Left'),

(7,'B','Left'),

(8,'B','Order'),

(9,'B','Review'),

(10,'A','Review');

1. **Retrieve count of total Actions and Orders for each Advertisement Type,**

SELECT Adv\_Type, Count(Action\_m) As Num\_Action, (SELECT Count(Action\_m) FROM Actions WHERE Action\_m = 'Order' AND Adv\_Type = 'A' ) As Num\_order

FROM Actions

WHERE Adv\_Type = 'A'

GROUP BY Adv\_Type

UNION

SELECT Adv\_Type, Count(Action\_m) As Num\_Action, (SELECT Count(Action\_m) FROM Actions WHERE Action\_m = 'Order' AND Adv\_Type = 'B' ) As Num\_order

FROM Actions

WHERE Adv\_Type = 'B'

GROUP BY Adv\_Type

**c.    *Calculate Orders (Conversion) rates for each Advertisement Type by dividing by total count of actions casting as float by multiplying by 1.0.***

SELECT Adv\_Type, 100/(Num\_Action/Num\_Order)\*0.01 AS Conversion\_Rate

FROM (SELECT Adv\_Type, Count(Action\_m) As Num\_Action, (SELECT Count(Action\_m) FROM Actions WHERE Action\_m = 'Order' AND Adv\_Type = 'A' ) As Num\_order

FROM Actions

WHERE Adv\_Type = 'A'

GROUP BY Adv\_Type

UNION

SELECT Adv\_Type, Count(Action\_m) As Num\_Action, (SELECT Count(Action\_m) FROM Actions WHERE Action\_m = 'Order' AND Adv\_Type = 'B' ) As Num\_order

FROM Actions

WHERE Adv\_Type = 'B'

GROUP BY Adv\_Type

) New\_table