

```
create database Bank;
```

```
use Bank;
```

```
select * from Loan;
```

**KPI's:** -

### --Total Application

```
select count(application_id) from loan;
```

Results	Messages
(No column name)	
1	10000

### --Approval Rate

```
SELECT
```

```
FORMAT(
```

```
    (SUM(CASE WHEN Loan_Status = 'Approved' THEN 1 ELSE 0 END) * 100.0) /  
    COUNT(*),
```

```
'N2'
```

```
) AS Approval_Rate
```

```
FROM loan;
```

Results	Messages
Approval_Rate	
1	60.29

### --Default Rate

```
SELECT
```

```
FORMAT(
```

```
    (SUM(CASE WHEN Loan_Status='Defaulted' THEN 1 ELSE 0 END) * 100.0) /  
    COUNT(*),
```

```
'N2'
```

```
) AS Approval_Rate
```

```
FROM loan;
```

Results	Messages
Approval_Rate	
1	4.74

### --Avg Loan Amount (Approved)

```
SELECT  
    ROUND(AVG(CAST(Loan_Amount AS DECIMAL(18,2))), 2) AS  
    Avg_Loan_Amount_Approved  
  
FROM loan  
  
WHERE Loan_Status = 'Approved';
```

	Avg_Loan_Amount_Approved
1	530960.250000

### --Average Credit Score (Approved Loans)

```
SELECT  
    ROUND(AVG(CAST(Credit_Score AS DECIMAL(10,2))), 2) AS  
    Avg_Credit_Score_Approved  
  
FROM loan  
  
WHERE Loan_Status = 'Approved';
```

	Avg_Credit_Score_Approved
1	578.290000

## SQL DATA CLEANING STEPS :-

### Step 1: Check the data

```
SELECT TOP 10 * FROM loan;
```

### Step 2: Remove Duplicates

```
DELETE FROM loan  
  
WHERE Application_ID NOT IN (  
    SELECT MIN(application_id)  
    FROM loan  
    GROUP BY Application_ID, Loan_Amount, Loan_Status  
);
```

### Step 3: Handle NULL Values

```
DELETE FROM loan  
  
WHERE Loan_Status IS NULL;
```

#### **Step 4: Convert Data Types**

```
ALTER TABLE loan
```

```
ALTER COLUMN Loan_Amount DECIMAL(18,2);
```

#### **Step 5: Standardize Text Columns**

```
UPDATE loan
```

```
SET Loan_Status = UPPER(LTRIM(RTRIM(Loan_Status)));
```

#### **Step 6: Add Derived / Modeled Columns**

```
ALTER TABLE loan
```

```
ADD Approval_Flag BIT;
```

```
UPDATE loan
```

```
SET Approval_Flag = CASE  
    WHEN Loan_Status = 'APPROVED' THEN 1  
    ELSE 0  
END;
```

#### **Step 7: Check the result**

```
SELECT TOP 10 Loan_ID, Loan_Status, Approval_Flag  
FROM loan;
```