

```
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';

Results	Messages
	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;
```