

# Some SQL functions

# CONCAT, CAST functions

## ▪ CONCAT

- Merge columns in your table output: Show staff and their date of birth into one column.

```
SELECT CONCAT(StaffName, ' was born on ', DateOfBirth)
AS 'Staff date of birth'
FROM Staff;
```

## ▪ CAST

- **Convert the data type:** Change budget from DOUBLE to DECIMAL(9,2). Also, rename the budget column as 'Annual Budget' and show the output in descending order of the 'Annual Budget'.

```
SELECT DepartmentName, CAST(Budget AS DECIMAL(9,2)) AS
'Annual Budget'
FROM DEPARTMENT
ORDER BY 'Annual Budget' DESC;
```

### Staff date of birth

Buffy Winters was born on 1987-09-15

Teddy Bear was born on 1983-12-03

John Smith was born on 1972-09-20

Jane Doe was born on 1969-01-25

Jacek Jones was born on 1984-10-19

Mohammad Awrangzeb was born on 1977-11-21

Rupam Deb was born on 1980-10-21

Md Polash was born on 1981-11-25

Teddy Bear was born on 1983-12-03

Fred Smith was born on 1956-06-30

DepartmentName	Annual Budget
Sales	5005000.00
Marketing	509000.00
Finance	650000.00
Accounting	360000.00
Human Resource	550000.00

# CONCAT, CAST functions

- **CONCAT & CAST**

- Display staff names and their annual salary. Sort the output in ascending order of their salary and append a dollar sign (\$) at the beginning of everyone's salary.

```
SELECT StaffName, CONCAT('$', CAST(Salary AS CHAR(12))) AS 'Annual Salary'  
From Staff  
ORDER BY Salary;
```

StaffName	Annual Salary
John Smith	\$25000.00
Fred Smith	\$25125.02
Buffy Winters	\$27000.00
Jacek Jones	\$35000.00
Mohammad Awrangjeb	\$35000.00
Md Polash	\$38000.00
Jane Doe	\$55000.00
Rupam Deb	\$55000.00
Teddy Bear	\$87125.02
Teddy Bear	\$87125.02

- They are used for **pattern matching in strings!**
- The wildcard '  ' matches any single character;
- '**%**' matches any number of characters (including zero).
  - '**abc%**' matches strings beginning with 'abc';
  - '**%xyz**' matches strings ending with 'xyz';
  - '**%aaa%**' matches strings containing 'aaa';
  - '**\_\_\_**' matches strings containing exactly **three** characters;
  - '**a\_b%**' matches strings beginning with 'a', followed by any single character, followed by 'b', followed by zero or more characters.

# SQL Example LIKE / NOT LIKE

- Find the staff whose last name starts with letter 'D'.

```
SELECT StaffName  
FROM Staff  
Where StaffName LIKE '% D%';
```

StaffName
Jane Doe
Rupam Deb

- Find the staff whose first name starts with letter 'J'.

```
SELECT StaffName  
FROM Staff  
Where StaffName LIKE 'J%';
```

StaffName
John Smith
Jane Doe
Jacek Jones

- Find the staff whose last name has exactly 3 or 4 letters.

```
SELECT StaffName  
FROM Staff  
Where StaffName LIKE '% ____' OR StaffName LIKE '% _____';
```

StaffName
Teddy Bear
Jane Doe
Rupam Deb
Teddy Bear

# BETWEEN, NOT BETWEEN

- Find the staff who were born **between 1975 to 1985**.

```
SELECT *  
FROM Staff  
Where DateOfBirth BETWEEN '1975-01-01' AND '1985-12-31';
```

StaffID	StaffName	DateOfBirth	Salary
2	Teddy Bear	1983-12-03	87125.02
5	Jacek Jones	1984-10-19	35000.00
6	Mohammad Awrangjeb	1977-11-21	35000.00
7	Rupam Deb	1980-10-21	55000.00
8	Md Polash	1981-11-25	38000.00
9	Teddy Bear	1983-12-03	87125.02

- Find the staff who were not born **between 1975 to 1985**.

```
SELECT *  
FROM Staff  
Where DateOfBirth NOT BETWEEN '1975-01-01' AND '1985-12-31';
```

StaffID	StaffName	DateOfBirth	Salary
1	Buffy Winters	1987-09-15	27000.00
3	John Smith	1972-09-20	25000.00
4	Jane Doe	1969-01-25	55000.00
10	Fred Smith	1956-06-30	25125.02

# Thank you