The background features a dark blue gradient with faint, light blue circular patterns. On the left side, there are several concentric circles with degree markings ranging from 40 to 260. Some of these circles have arrows indicating a clockwise direction. The overall aesthetic is technical and modern.

# DATABASE SYSTEM LABS

## - ADVANCED SQL: PROCEDURE & FIGURE

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# OBJECTIVES

- PROCEDURE
- Drawing Figure In Python
- A Lab

# PROCEDURE EXAMPLE

# EXAMPLE: MYSQL PROCEDURE

```
DROP PROCEDURE IF EXISTS sp_proc_instructor;
```

```
DELIMITER ;;
```

```
CREATE PROCEDURE sp_proc_instructor(IN deptName varchar(20), OUT cnt int)
```

```
BEGIN
```

```
    IF deptName is null THEN
```

```
        select count(*) into cnt  from instructor;
```

```
    ELSE
```

```
        select count(*) into cnt  from instructor where dept_name=deptName;
```

```
    END IF;
```

```
    /* select * from instructor where dept_name=deptName; */
```

```
END;;
```

```
DELIMITER ;
```



## EXAMPLE: MYSQL PROCEDURE

```
set @deptName='Comp. Sci.';  
call sp_proc_instructor(@deptName,@mycnt);  
select @mycnt as cnt;
```

# Drawing Figure In Python

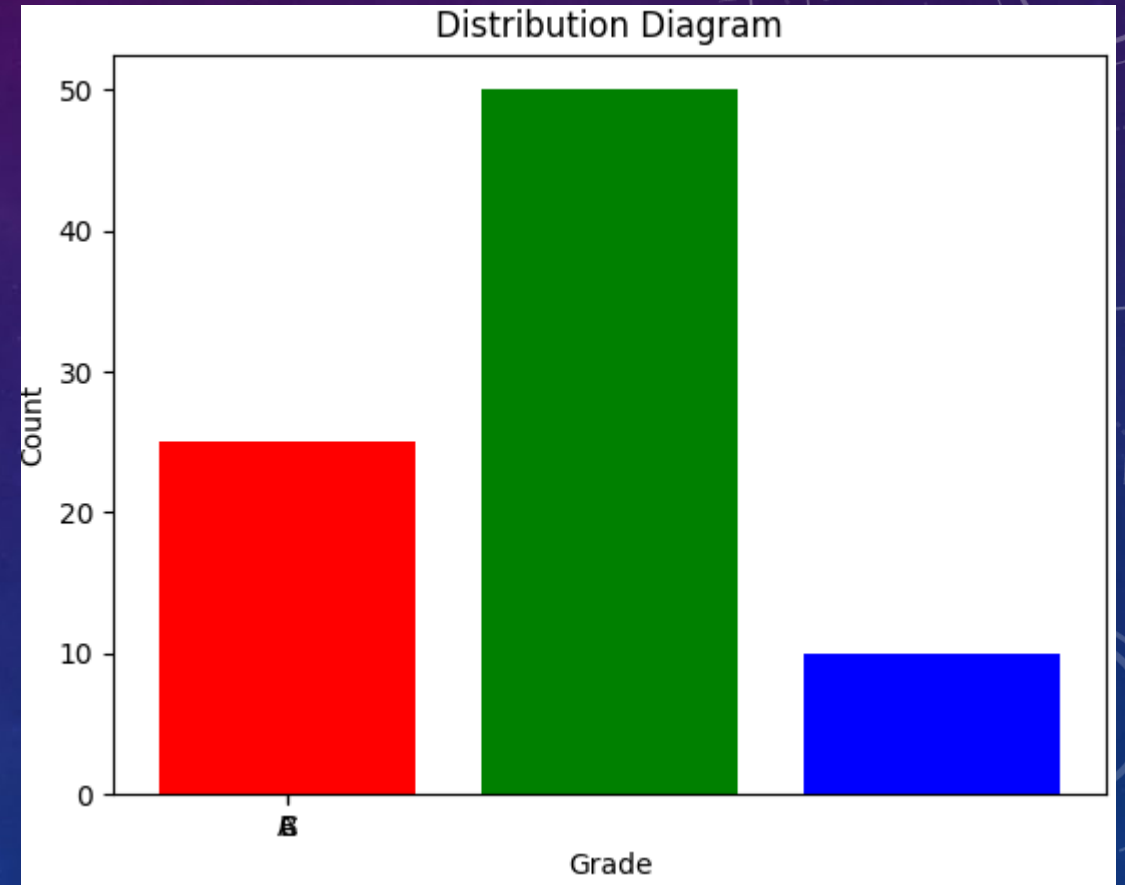
# DRAWING FIGURE IN PYTHON

- (in ubuntu)  
    `sudo apt-get install python3-tk`
- `pip3 install numpy`
- `pip3 install tkinter`
- `pip3 install matplotlib`

# DRAWING FIGURE IN PYTHON

```
import matplotlib.pyplot as plt  
name_list=['C','B','A']  
index=[0 for i in range(len(name_list))]  
cnt_list = []  
cnt_list.append(25)  
cnt_list.append(50)  
cnt_list.append(10)  
plt.bar(range(len(cnt_list)), cnt_list, color='rgby')  
plt.xticks(index, name_list)  
plt.show()
```

©LXD





# DRAWING FIGURE IN PYTHON

```
import matplotlib.pyplot as plt
```

```
labels = ['A', 'B', 'C']
```

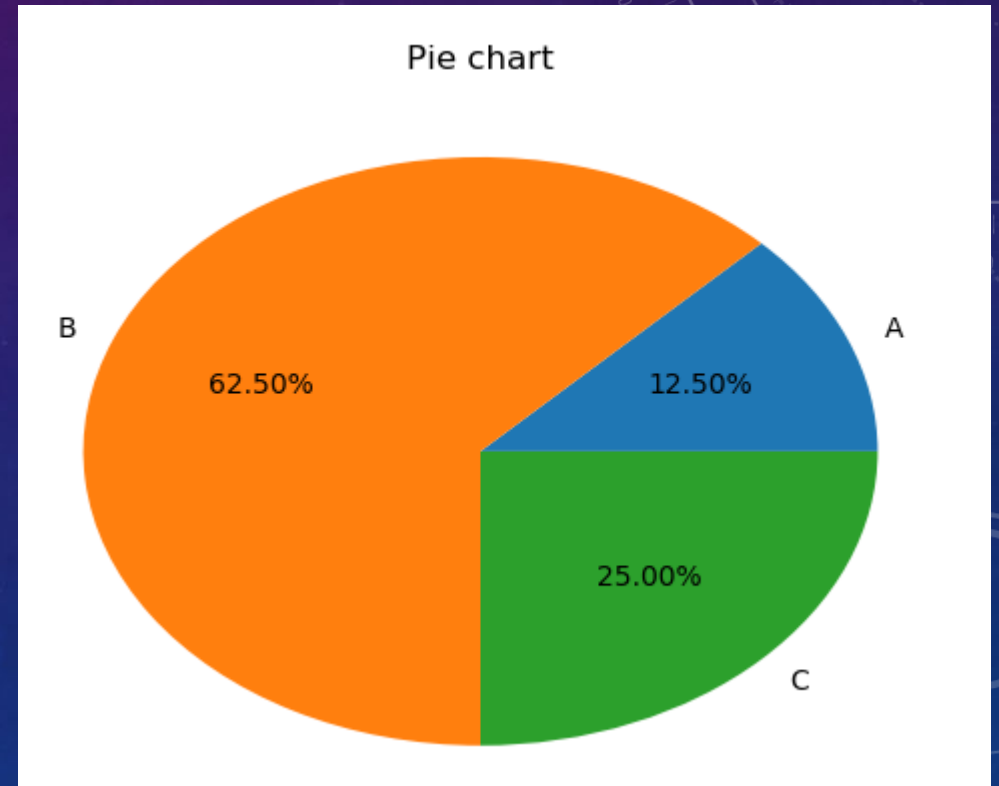
```
X = [10, 50, 20]
```

```
fig = plt.figure()
```

```
plt.pie(X, labels=labels, autopct='%1.2f%%') # 画饼图（数据，数据对应的标签，百分数保留两位小数点）
```

```
plt.title("Pie chart")
```

```
plt.show()
```



## QUZI 1

- 1. 统计如下指定学年、学期、实例号、课程号的课程（区分不同学年学期）的成绩分布情况并画图显示：
  - course\_id='192'
  - sec\_id=1 and semester='Fall' and year=2002
- 具体分类标准x
  - A+, A-, B+, B-, C+, C-, D+, D-, 其它
  - 上述统计x，若没有的默认是0值