

Tutorial 1

1. Write a program that allow user to enter the particulars of a student and store them into variables. Then, display the output as follows.

```
***Welcome to the Department of Electrical Engineering***
Student ID: KIE170001
Name: Amin Ali
Date of Birth: 17/01/1997
Height(cm): 174
Weight(kg): 80
*** End ***
```

2. Write a program that prints a box, an oval, an arrow and a diamond in the same line as below. Try to use single, double and triple quotes in quoting below lines. In this question, which type of quote you prefer to use?

```
*****      ***      *      *
*          *      *      *      *      *
*          *      *      *      *      *
*          *      *      *      *      *
*          *      *      *      *      *
*          *      *      *      *      *
*          *      *      *      *      *
*****      ***      *      *
```

3. Write a program that allow user to calculate area for a chosen shape. An example of execution of such program is as below.

```
Area Calculator for Basic Shapes
=====

1. Square
2. Rectangle
3. Triangle
4. Circle

Choose a shape [1-4] that you want calculate its area : 2

Enter length : 4
Enter base   : 2

Area of rectangle is 8.0
```

4. Expand program in Q1, to create a basic student database system, which is able to record particulars for a number of students. The system should be able to enter new record and list existing records in the database.

```
*** Welcome to the Department of Electrical Engineering ***
***                               Student Database System                               ***
1. Enter New Record
2. Print All Records
3. Exit
Your choice [1-3]: ?
```

If user choose 1, use the code in Q1 to ask user to enter a new record, and store the record in the database system.

If user choose 2, the system should print all records which exist in the database system.

```
Your choice [1-3]: 2
No  ID      Name      DOB      Height  Weight
01  KIE170001 Amin Ali  17/01/1997  174    180
02  ..      ..      ..      ..      ..
```

5. Expand program in Q4, to include search functionality into the student database system, which only list records of student, which fulfil a set of search criteria.

```
*** Welcome to the Department of Electrical Engineering ***
***                               Student Database System                               ***
1. Enter New Record
2. Print All Records
3. Search Record(s)
4. Exit
Your choice [1-3]: 3
* Enter search criteria
Student ID:
Name: amin
Date of Birth:
Height(cm):
Weight(kg):
* 1 record(s) found.
No  ID      Name      DOB      Height  Weight
01  KIE170001 Amin Ali  17/01/1997  174    180
```

6. Reusing search functionality in Q5, expand program in Q5, to include below functionalities into the student database system.
- Modification of a record
 - Deletion of a record

