Lab 9: (Need to submit Task 9.2 and Task 9.3 as a part of assignment 3)

Task 9.1. Re-write the code after fixing the **errors**.

```
#include<iostream>
using namespace std;

struct emp
{
      char *surname;
      int age;
      float salary;
}

int  main()
{
      struct  emp  ricky;
      struct  emp  *aPtr;
      ricky.surname  =  "Peter";
      ricky.age  =  35;
      ricky.salary = 2000.53;

      aPtr  =  &ricky;

      cout<<"Surname: " << ricky->surname<<"\n"<<"Age: "
            <<ricky.age<<"\n"<<"Salary : "<<ricky.salary<<endl;

      cout<<"Surname: "<<aPtr.surname<<"\n"<<"Age: "<<(*aPtr).age
            <<"\n"<<"Salary: "<<aPtr->salary;
      return 0;
}
```

Task 9.2 Use the following structure for this problem. **(Need to submit this task as a part of assignment 3)**

```
struct company_detail
{
      string company_id;
      string company_name;
};
struct Emp
{
      string emp_name;
      string emp_id;
      double salary;
      struct company_detail cmp_detail;
};
```

Declare an array called `employee[5]` of type `struct Emp`. Use `get_data()` to read in values for the array, use `print_data()`to print out the array elements, use `get_salary ()` function to search the salary of an employee and use `get_average ()` function to calculate average salary of a particular company (use company name for this).

```
//below function prototypes must be used
struct Emp get_data();
void print_data(struct Emp[], int);
double get_average(struct Emp*, int,string);
double get_salary(struct Emp[], string);
```

Enum - Introduction

An enumeration is a user-defined data type that consists of set of integers. To define an enumeration, keyword enum is used.

Eg:

```
enum months {
JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC
}; // end enum months
```

creates a new type, enum months, in which the identifiers are set to the integers 0 to 11, respectively.

By default enumeration numbering starts from 0

```
enum months {
JAN = 1, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC
}; // this number the months 1 to 12.
```

```
#include <iostream>
#include <cstdlib>
using namespace std;
enum week { sunday, monday, tuesday, wednesday, thursday, friday, saturday };
void lecture_unit(week day)
{
      switch(day)
      {
            case monday:
                  cout<<"SWE20004\n";
                  break;
            case tuesday:
                  cout<<"COS10009\n";
                  break;
                   /*
                  .
                  .
                  .
                  */
            case sunday:
```

```
                    cout<<"Holiday\n";
                    break;
        }
}
int main()
{
    int day;
      cout<<"What is the day today? 0 - Sunday, 1 - Monday, 2 -Tuesday etc "<<endl;
      cin>>day;
      week today = static_cast<week>(day);
    lecture_unit(today);
    return 0;
}
```

Task 9.3 (Need to submit this task as a part of assignment 3)

Write a complete C++ program to create a music player.

Your program should read in several album names, each album has up to 5 tracks as well as a genre.

First declare genre for the album as an *enumeration* with at least three entries. Then declare an album *structure* that has five elements to hold the album *name*, *genre*, *number of tracks, name of those tracks* and *track location*.

You can use the template given below, but highly recommended to use your own variable names and enumeration list.

```
enum genre{ pop, Jazz, Classic};

struct album
{
      string album_name;
      genre kind;
      int track_number;
      string tracks[5];
      string tracklocation;
};
```

Declare a *vector* (user determines the number of albums at the runtime) of type *album* to create database for album.

In *main* you should have four option:

Option 1: call a function ***add_album*** – it allows the user to enter the album details.

Option 2: call a function named ***print_all_album*** to print out the album details.

Option 3: call a ***select_track_to_play*** function that allows the user to choose an album and then a track to play. It should print out:

When the user selects a track to play your program must call an external program to play the track.

Option 4: Quit

```
Enter the option:
 1 to add an album
 2 to print the album details
 3 to play a track from an album
 4 to exit
1
Enter album name
Dangerous
Enter genre 0 -> pop, 1 -> Jazz, 2 -> Classic
0
Enter number of tracks in the album
3
Enter the names for these 3 tracks
BlackOrWhite
HealTheWorld
WhoIsIt
Enter the file location of these tracks
track_folder1

Enter the option:
 1 to add an album
 2 to print the album details
 3 to play a track from an album
 4 to exit
2

Name of the album  : Dangerous
Genre of the album : pop
No. of tracks      : 3
Tracks are :
BlackOrWhite
HealTheWorld
WhoIsIt
Tracks are located at track_folder1

Enter the option:
 1 to add an album
 2 to print the album details
 3 to play a track from an album
 4 to exit
1
Enter album name
Thriller
Enter genre 0 -> pop, 1 -> Jazz, 2 -> Classic
1
Enter number of tracks in the album
4
Enter the names for these 4 tracks
P.Y.T.
BeatIt
BillieJean
HumanNature
Enter the file location of these tracks
track_folder2
```

Screen shot continue in the next page, these screen shots are taken from a single run.

```
Enter the option:
 1 to add an album
 2 to print the album details
 3 to play a track from an album
 4 to exit
2

Name of the album  : Dangerous
Genre of the album : pop
No. of tracks    : 3
Tracks are :
BlackOrWhite
HealTheWorld
WhoIsIt
Tracks are located at track_folder1

Name of the album  : Thriller
Genre of the album : Jazz
No. of tracks    : 4
Tracks are :
P.Y.T.
BeatIt
BillieJean
HumanNature
Tracks are located at track_folder2

Enter the option:
 1 to add an album
 2 to print the album details
 3 to play a track from an album
 4 to exit
3
Select an album to play
Thriller
This album contains 4 tracks and those tracks are
1. P.Y.T.
2. BeatIt
3. BillieJean
4. HumanNature
Please select a track to play from the above list
BeatIt
The track you selected BeatIt.mp3 from the Album: Thriller is now playing from t
he location track_folder2

Enter the option:
 1 to add an album
 2 to print the album details
 3 to play a track from an album
 4 to exit
```