COMP710: Studio Session 02 – Exercise:

EXERCISE NAME: *C++ – Using Structures*

Create a Visual Studio Solution named "SS02" and C++ Project named "Using Structures" for this exercise.

Declare a structure that represents a player in a 2D game environment. The player must have fields for their position, a value for their health, and a Boolean to represent whether or not they are alive.

The skeleton of this program is provided below:

```
/* #include required headers here */

struct Player
{
    /* Insert your code here */
};

/* Insert Prototypes here */

int main()
{
    return 0;
}

/* Insert function definitions here */
```

Next, write a function named **SetupPlayer()** which takes in a reference to a **Player** structure, and populates the fields of the structure with the following values: a position of (0, 0), a health of 100, and an alive state of **true**.

Ensure you have a prototype and a definition for the **SetupPlayer** function.

Next, write a function called **PrintPlayerDetails()** which takes in a **const** reference to a **Player** structure. In this function print out the player's details in the following format:

```
Player's Current State:
 - Position: (0, 0)
 - Health: 100
 - Alive: Yes
```

Next, in the **main** function, add two local structure variables named **player1** and **player2**.

Call **PrintPlayerDetails** with **player1** and then **player2**.

Then call **SetupPlayer** with **player1** and **player2**.

Then call **PrintPlayerDetails** again. The following is an example of this:

```
/* #include required headers here */

struct Player
{
    /* Insert your code here */
};

/* Insert Prototypes here */

int main()
{
    // Declare two local structure variables.

    // Call PrintPlayerDetails with player1.
    // Call PrintPlayerDetails with player2.

    // Call SetupPlayer with player1.
    // Call SetupPlayer with player2.

    // Call PrintPlayerDetails with player1.
    // Call PrintPlayerDetails with player2.

    return 0;
}

/* Insert function definitions here */
```

Add a comment to the source code that explains the difference between the details printed before the calls to **SetupPlayer** and the details printed afterwards.

Once complete, commit your program's source code to your individual SVN folder – include the **.sln**, **.vcxproj** and **.cpp** files, and ensure you do not commit any build output files.