**Lab 11**

In this lab, we will learn to define a struct data type and use it to form an array of struct type.

Your program will implement the preparation routine used in a card game, called “Hearts”. To play the game, first your program will create a deck of (52) cards.

Each card is described by its suit, value, and points in game. Define a structured data type CardType with the following components: suit (string type with values: "Diamond", "Club", "Heart", and "Spade"), value (int), and points (int).

Define a function FormCards that creates the deck of cards:

The deck of cards should be represented as an array of CardType. The size of the array is 52.

* Each card is described by its suit, value, and points in game.
* A card value is the face value of the card which is from 1 to 13, i.e., 11 for Jack, 12 for Queen, and 13 for King.
* For card points in game, all the cards of HEART suit have points: each HEARTS card of less than 10 face value has 5 points; HEARTS of 10, Jack, Queen, and King have 10 points.
* All Spade, Diamond, and Club cards have a value 0, except that the Queen of Spade has a point of 100, Jack of Diamond has a point of -100.

Special Requirements:

The card array should be declared in the main function, Your main function calls the following two functions:

* a function "FormCards" that forms the deck of cards, i.e., assigns the values to the cards, and
* the second function "DisplayCards" to display the cards on screen.

Here is an example output of the program:

Here is the deck of cards:

SUIT VALUE POINTS

Diamond A 0

Diamond 2 0

Diamond 3 0

Diamond 4 0

Diamond 5 0

Diamond 6 0

Diamond 7 0

Diamond 8 0

Diamond 9 0

Diamond 10 0

Diamond J -100

Diamond Q 0

Diamond K 0

Club A 0

Club 2 0

Club 3 0

Club 4 0

Club 5 0

Club 6 0

Club 7 0

Club 8 0

Club 9 0

Club 10 0

Club J 0

Club Q 0

Club K 0

Heart A 5

Heart 2 5

Heart 3 5

Heart 4 5

Heart 5 5

Heart 6 5

Heart 7 5

Heart 8 5

Heart 9 5

Heart 10 10

Heart J 10

Heart Q 10

Heart K 10

Spade A 0

Spade 2 0

Spade 3 0

Spade 4 0

Spade 5 0

Spade 6 0

Spade 7 0

Spade 8 0

Spade 9 0

Spade 10 0

Spade J 0

Spade Q 100

Spade K 0