**TUTORIAL 9**

**Question 1**

Suppose the following structure is used to write a dieting program:

struct food

{

char name[15];

int portion\_weight;

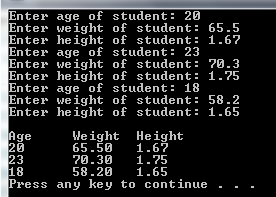
int calories;

};

How would one declare an array *meal[10]* of this type? Let us say that a 4-ounce apple contains 200 calories, how would you assign values to the three member of *meal[0]* to represent such an apple?

**Question 2**

Create a structure that can describe a student. It should have members that include the age, weight and height. Write a program that allows the user to enter the information for 3 students and then have a function to print the information of the students in a table, as shown below:



**Question 3**

Define a structure consisting of the two floating point members called real and imaginary. Include the tag complex within the definition.

a) Declare the variables x1 and x2 of type complex. Assign the initial values to the members of x1 and x2. b) Find the sum of complex variables x1 and x2.

**Question 4**

Using structure definition write a program that enter student ID number, name and mark for the programming module and print out students list that obtained mark more than 60 and less than 80. The number of student should be determined by the user.

**Question 5**

A health care issue that has been in the news lately is the computerization of health records. This possibility is being approached cautiously because of sensitive privacy and security concerns, among others. Computerizing health records could make it easier for patients to share their health profiles and histories among their various health care professionals. This could improve the quality of health care, help avoid drug conflicts and erroneous drug prescriptions, reduce costs and in emergencies could save lives. In this exercise, you’ll design a “starter” HealthProfile structure for a person. The structure’s members should include the person’s first name, last name, gender and year of birth. The program should prompt for the person’s information, create a HealthProfile variable for that person and display the information from that variable—including the person’s first name, last name, gender and year of birth—then calculate and display the person’s age in years.

**Question 6**

Create a structure that can describe a restaurant. It should have members that include the name, type of food and average cost per person. Write a program that continuously ask the user to input information of restaurants. When the user indicates that he/she does not want to continue anymore, then a function will print out all restaurants in order of average cost, least expensive first.