STRUCTURE

1. Write a C program to create a structure named company which has name, address, phone and

noOfEmployee as member variables. Read name of company, its address, phone and

noOfEmployee. Finally display these members‟ value.

#include <stdio.h>

struct Company {

char name[50];

char address[100];

char phone[15];

int noOfEmployee;

};

int main() {

struct Company myCompany;

printf("Enter company name: ");

gets(myCompany.name);

printf("Enter company address: ");

gets(myCompany.address);

printf("Enter company phone: ");

gets(myCompany.phone);

printf("Enter number of employees: ");

scanf("%d", &myCompany.noOfEmployee);

// Displaying details

printf("\nCompany Details\n");

printf("Name: %s\n", myCompany.name);

printf("Address: %s\n", myCompany.address);

printf("Phone: %s\n", myCompany.phone);

printf("Number of Employees: %d\n", myCompany.noOfEmployee);

return 0;

}

2. Define a structure “complex” (typedef) to read two complex numbers and perform addition, subtraction of these two complex numbers and display the result.

#include <stdio.h>

typedef struct {

float real;

float imag;

} Complex;

int main() {

Complex num1, num2, result;

printf("Enter real and imaginary parts of complex number 1: ");

scanf("%f %f", &num1.real, &num1.imag);

printf("Enter real and imaginary parts of complex number 2: ");

scanf("%f %f", &num2.real, &num2.imag);

// Addition

result.real = num1.real + num2.real;

result.imag = num1.imag + num2.imag;

printf("Sum: %.2f + %.2fi\n", result.real, result.imag);

// Subtraction

result.real = num1.real - num2.real;

result.imag = num1.imag - num2.imag;

printf("Difference: %.2f + %.2fi\n", result.real, result.imag);

return 0;

}

3. Write a C program to read RollNo, Name, Address, Age & average-marks of 12 students in the

BCT class and display the details from function.

#include <stdio.h>

struct Student {

int rollNo;

char name[50];

char address[100];

int age;

float avgMarks;

};

void displayStudentDetails(struct Student students[]) {

printf("\nStudent Details\n");

for (int i = 0; i < 12; i++) {

printf("Roll No: %d\n", students[i].rollNo);

printf("Name: %s\n", students[i].name);

printf("Address: %s\n", students[i].address);

printf("Age: %d\n", students[i].age);

printf("Average Marks: %.2f\n", students[i].avgMarks);

printf("--------------------------\n");

}

}

int main() {

struct Student bctStudents[12];

printf("Enter details for 12 students in BCT class:\n");

for (int i = 0; i < 12; i++) {

printf("\nDetails for Student %d\n", i + 1);

printf("Enter Roll No: ");

scanf("%d", &bctStudents[i].rollNo);

printf("Enter Name: ");

scanf("%s", bctStudents[i].name);

printf("Enter Address: ");

scanf("%s", bctStudents[i].address);

printf("Enter Age: ");

scanf("%d", &bctStudents[i].age);

printf("Enter Average Marks: ");

scanf("%f", &bctStudents[i].avgMarks);

}

// Displaying details

displayStudentDetails(bctStudents);

return 0;

}

4. Write a C program to add two distances in feet and inches using structure

#include <stdio.h>

struct Distance {

int feet;

float inches;

};

int main() {

struct Distance distance1, distance2, sum;

// Input for distance 1

printf("Enter distance 1 in feet and inches (separated by a space): ");

scanf("%d %f", &distance1.feet, &distance1.inches);

// Input for distance 2

printf("Enter distance 2 in feet and inches (separated by a space): ");

scanf("%d %f", &distance2.feet, &distance2.inches);

// Adding distances

sum.feet = distance1.feet + distance2.feet;

sum.inches = distance1.inches + distance2.inches;

// Converting excess inches to feet if needed

while (sum.inches >= 12.0) {

sum.inches -= 12.0;

sum.feet++;

}

// Displaying sum

printf("\nSum of distances: %d feet %.2f inches\n", sum.feet, sum.inches);

return 0;

}

5. Write a C program to read and print an Employee’s Details using Structure.

#include <stdio.h>

struct Employee {

char name[50];

int employeeId;

char department[50];

float salary;

};

int main() {

struct Employee employee;

printf("Enter employee name: ");

gets(employee.name);

printf("Enter employee ID: ");

scanf("%d", &employee.employeeId);

printf("Enter employee department: ");

scanf("%s", employee.department);

printf("Enter employee salary: ");

scanf("%f", &employee.salary);

// Displaying details

printf("\nEmployee Details\n");

printf("Name: %s\n", employee.name);

printf("Employee ID: %d\n", employee.employeeId);

printf("Department: %s\n", employee.department);

printf("Salary: %.2f\n", employee.salary);

return 0;

}