Assignment 13

```
#include <stdio.h>
#include <string.h>

// 1. Student
struct student {

   int rollno;
   char name[30];
   float marks;
};

// 2. Employee
struct employee {

   int id;
   char name[30];
   double salary;

};

// 3. Admin
struct admin {

   int id;
   char name[30];
   double salary;
   int allowance;

};
```

```
// 4. HR
struct hr {

   int id;
   char name[30];
   double salary;
   double commission;

};

// 5. SalesManager
struct salesManager {

   int id;
   char name[30];
   double salary;
   double incentive;
   int target;

};

// 6. Date
struct date {

   int day;
   int month;
   int year;

};

// 7. Time
```

```
struct time {

   int hour;
   int min;
   int sec;

};

// 8. Distance
struct distance {

   int feet;
   int inch;

};

// 9. Complex
struct complex {

   float real;
   float imaginary;

};

// 10. Product
struct product {

   int id;
   char name[30];
   int quantity;
   float price;
```

```
};

void main() {

   // 1. Student
   struct student s1;

   s1.rollno = 1;
   strcpy(s1.name, "Manish");

   s1.marks = 85;
   printf("Student:\n%d \n%s \n%f\n", s1.rollno, s1.name, s1.marks);



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

   // 2. Employee
   struct employee e1;

   e1.id = 101;
   strcpy(e1.name, "Manish");

   e1.salary = 75000;
   printf("Employee:\n%d \n%s \n%lf\n", e1.id, e1.name, e1.salary);

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

   // 3. Admin

   struct admin a1;
```

```
a1.id = 201;

strcpy(a1.name, "Prashant");


a1.salary = 80000;

a1.allowance = 1000;


printf("Admin: \n%d  \n%s \n%lf \n%d\n", a1.id, a1.name, a1.salary, a1.allowance);


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


// 4. HR

struct hr h1;


h1.id = 202;


strcpy(h1.name, "Sneha");


h1.salary = 70000;

h1.commission = 5000;


printf("HR:\n%d \n%s %lf  \n%lf \n", h1.id, h1.name, h1.salary, h1.commission);




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


// 5. SalesManager

struct salesManager sm1;


sm1.id = 203;
```

```
   strcpy(sm1.name, "Rohit");

   sm1.salary = 65000;

   sm1.incentive = 4500;
   sm1.target = 10;

   printf("SalesManager:\n%d  \n %s \n%lf \n%lf \n %d \n", sm1.id, sm1.name, sm1.salary, sm1.incentive,
sm1.target);

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

   // 5. Date

   struct date d1;

   d1.day = 21;
   d1.month = 4;
   d1.year = 2025;

   printf("Date: \n%d/%d/%d\n ", d1.day, d1.month, d1.year);

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

   // 7. Time

   struct time t1;

   t1.hour = 10;
   t1.min = 30;
   t1.sec = 45;
```

```
printf("Time:\n%d :%d:%d\n", t1.hour, t1.min, t1.sec);



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

// 8. Distance

struct distance dist1;

dist1.feet = 5;
dist1.inch = 11;

printf("Distance:\n%d feet %d inches\n", dist1.feet, dist1.inch);



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

// 9. Complex Number

struct complex c1;

c1.real = 3.5;
c1.imaginary = -2.1;

printf("Complex Number:\n%f + %fi\n", c1.real, c1.imaginary);



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

// 10. Product
struct product p1;
```

```
    p1.id = 301;

    strcpy(p1.name, "Laptop");

    p1.quantity = 10;
    p1.price = 45000.50;

    printf("Product:\n%d \n%s  \n%d \n%f\n", p1.id, p1.name, p1.quantity, p1.price);

}
```

```
// In void main()
// Using function (store , display) -> pass by value
//  -> pass by address (array)
//  -> pass one structure variable to function by address

#include <stdio.h>
#include <string.h>

// 1. Student
struct student {

   int rollno;
   char name[30];
   float marks;
};

void storeStudent(struct student *s) {

   s->rollno = 1;

   strcpy(s->name, "Manish");

   s->marks = 85.0;
}

void displayStudent(struct student s) {

   printf("Student:\n%d \n%s \n%f\n", s.rollno, s.name, s.marks);

}
```

```
// 2. Employee
struct employee {
   int id;
   char name[30];
   double salary;
};

void storeEmployee(struct employee *e) {

   e->id = 101;

   strcpy(e->name, "Manish");

   e->salary = 75000;
}

void displayEmployee(struct employee e) {

   printf("Employee:\n %d \n %s \n %lf\n ", e.id, e.name, e.salary);

}

// 3. Admin
struct admin {

   int id;
   char name[30];
   double salary;
   int allowance;
```

```
};

void storeAdmin(struct admin *a) {

   a->id = 201;

   strcpy(a->name, "Prashant");

   a->salary = 80000;
   a->allowance = 1000;
}

void displayAdmin(struct admin a) {

   printf("Admin:\n%d \n%s \n%lf \n%d\n", a.id, a.name, a.salary, a.allowance);

}

// 4. HR

struct hr {

   int id;
   char name[30];
   double salary;
   double commission;

};

void storeHR(struct hr *h) {
```

```
    h->id = 202;

    strcpy(h->name, "Sneha");

    h->salary = 70000;
    h->commission = 5000;

}

void displayHR(struct hr h) {

    printf("HR:\n%d \n%s \n%lf \n%lf\n", h.id, h.name, h.salary, h.commission);

}

// 5. SalesManager

struct salesManager {

    int id;
    char name[30];
    double salary;
    double incentive;
    int target;

};

void storeSalesManager(struct salesManager *sm) {

    sm->id = 203;
```

```
    strcpy(sm->name, "Rohit");

    sm->salary = 65000;
    sm->incentive = 4500;
    sm->target = 10;

}

void displaySalesManager(struct salesManager sm) {

    printf("SalesManager:\n%d \n%s \n%lf \n%lf \n%d\n", sm.id, sm.name, sm.salary, sm.incentive,
sm.target);

}

// 6. Date

struct date {

    int day;
    int month;
    int year;
};

void storeDate(struct date *d) {

    d->day = 21;
    d->month = 4;

    d->year = 2025;
}
```

```
void displayDate(struct date d) {

   printf("Date:\n%d/%d/%d\n", d.day, d.month, d.year);

}

// 7. Time

struct time {

   int hour;
   int min;
   int sec;

};

void storeTime(struct time *t) {

   t->hour = 10;
   t->min = 30;
   t->sec = 45;

}

void displayTime(struct time t) {

   printf("Time:\n%d:%d:%d\n", t.hour, t.min, t.sec);

}

// 8. Distance
```

```
struct distance {

   int feet;

   int inch;

};

void storeDistance(struct distance *d) {

   d->feet = 5;

   d->inch = 11;

}

void displayDistance(struct distance d) {

   printf("Distance:\n%d feet %d inches\n", d.feet, d.inch);

}

// 9. Complex

struct complex {

   float real;

   float imaginary;

};

void storeComplex(struct complex *c) {

   c->real = 3.5;
```

```
    c->imaginary = -2.1;

}

void displayComplex(struct complex c) {

    printf("Complex Number:\n%f + %fi\n", c.real, c.imaginary);

}

// 10. Product
struct product {

    int id;
    char name[30];
    int quantity;
    float price;

};
void storeProduct(struct product *p) {

    p->id = 301;

    strcpy(p->name, "Laptop");

    p->quantity = 10;
    p->price = 45000.50;
}

void displayProduct(struct product p) {
```

```
    printf("Product:\n%d \n%s \n%d \n%f\n", p.id, p.name, p.quantity, p.price);

}

void main() {

    struct student s;
    struct employee e;
    struct admin a;
    struct hr h;
    struct salesManager sm;
    struct date d;
    struct time t;
    struct distance dist;
    struct complex c;
    struct product p;

    storeStudent(&s);
    displayStudent(s);

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

    storeEmployee(&e);
    displayEmployee(e);
    printf("\n-------------------------\n");

    storeAdmin(&a);

    displayAdmin(a);
    printf("\n-------------------------\n");
```

```
storeHR(&h);
displayHR(h);

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

storeSalesManager(&sm);
displaySalesManager(sm);

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

storeDate(&d);
displayDate(d);
printf("\n-------------------------\n");

storeTime(&t);
displayTime(t);

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

storeDistance(&dist);
displayDistance(dist);

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

storeComplex(&c);
displayComplex(c);
printf("\n-------------------------\n");

storeProduct(&p);
displayProduct(p);
```

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


}
```