

MA 511: Computer Programming

Lecture 9

http://www.iitg.ernet.in/psm/indexing_ma511/y08/index.html

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Mon 10:00-10:55 Tue 11:00-11:55 Fri 9:00-9:55 Class: 1G2

MA512 Lab : Wed 14:00-16:55

Exercises

1. Write a C-program for the function $f(x)$ defined below:
 - $f(x) = 2x^2 + 3x + 4$ for $x < 2$
 - $= 0$ for $x = 2$
 - $= -2x^2 + 3x - 4$ for $x > 2$
2. Write function to validate the elements of a matrix of size $n \times n$. The validation rules are:
 - a) All diagonal entries should be positive.
 - b) The matrix should be symmetric.
 - c) All the non-diagonal elements should be negative or zero.

structures

- **array**: Data Structure whose elements are all of the same data type.
- Example:
 - int A[10]; float B[10];
- **structure**: individual elements can differ in type:
- Example:

```
struct account {  
    int acct_no;  
    char acct_type;  
    char name[80];  
    float balance;  
};
```

Where acct_no, acct_type, name[80], balance are the member of the **structure** account.

Cont.. structures

Example:

```
struct account {  
    int acct_no;  
    char acct_type;  
    char name[80];  
    float balance;  
} oldcustomer, newcustomer;
```

oldcustomer, newcustomer are the structure variable of type account.

Cont.. structures

Example:

```
struct account {  
    int acct_no;  
    char acct_type;  
    char name[80];  
    float balance;  
};
```

We also can declare the structure variable follows:

```
struct account oldcustomer, newcustomer;
```

oldcustomer, newcustomer are the structure variable of type account.

Cont.. structures

Example:

```
struct account {  
    int acct_no;  
    char acct_type;  
    char name[80];  
    float balance;  
} customer[100];
```

This declarations implies that **customer** is a 100 element array of the structures of the type **account**.