ترجمه فا
TarjomeFa.Com

ارائه شده توسط:

سایت ترجمه فا

مرجع جدیدترین مقالات ترجمه شده

از نشریات معتبر

Software Crisis

Development in software technology continue to be dynamic. New tools and techniques are announced in quick succession. This has forced the software engineers and industry to continuously look for new approaches to software design and development, and they are becoming more and more critical in view of the increasing complexity of software systems as well as the highly competitive nature of the industry. These rapid advances appear to have created a situation

of crisis within the industry. The following issues need to be addressed to face this crisis:

- How to represent real-life entities of problems in system design?
- How to ensure reusability and extensibility of modules?
- How to develop modules that are tolerant to any changes in future?
- How to improve software productivity and decrease software cost?

- How to improve the quality of software?
- How to manage time schedules?

These studies and other reports on software implementation suggest that software products should be evaluated carefully for their quality before they are delivered and implemented. Some of the quality issues that must be considered for critical evaluation are:

- Correctness
- Maintainability

- Reusability
- Portability
- Security
- User friendliness

Procedure-Oriented Programming

In the procedure-oriented approach, the problem is viewed as a sequence of things to be done such as reading, calculating and printing. A number of functions are written to accomplish these tasks. Procedure-oriented programming basically

consists of writing a list of instructions (or actions) for the computer to follow, and organizing these instructions into groups known as functions. We normally use a flowchart to organize these actions and represent the flow of control from one actions to another.

In a multi-function program, many important data items are placed as global so that they may be accessed by all the functions. Each function may have its own local data. Figure below shows the relationship of data and functions in a procedure-oriented program.

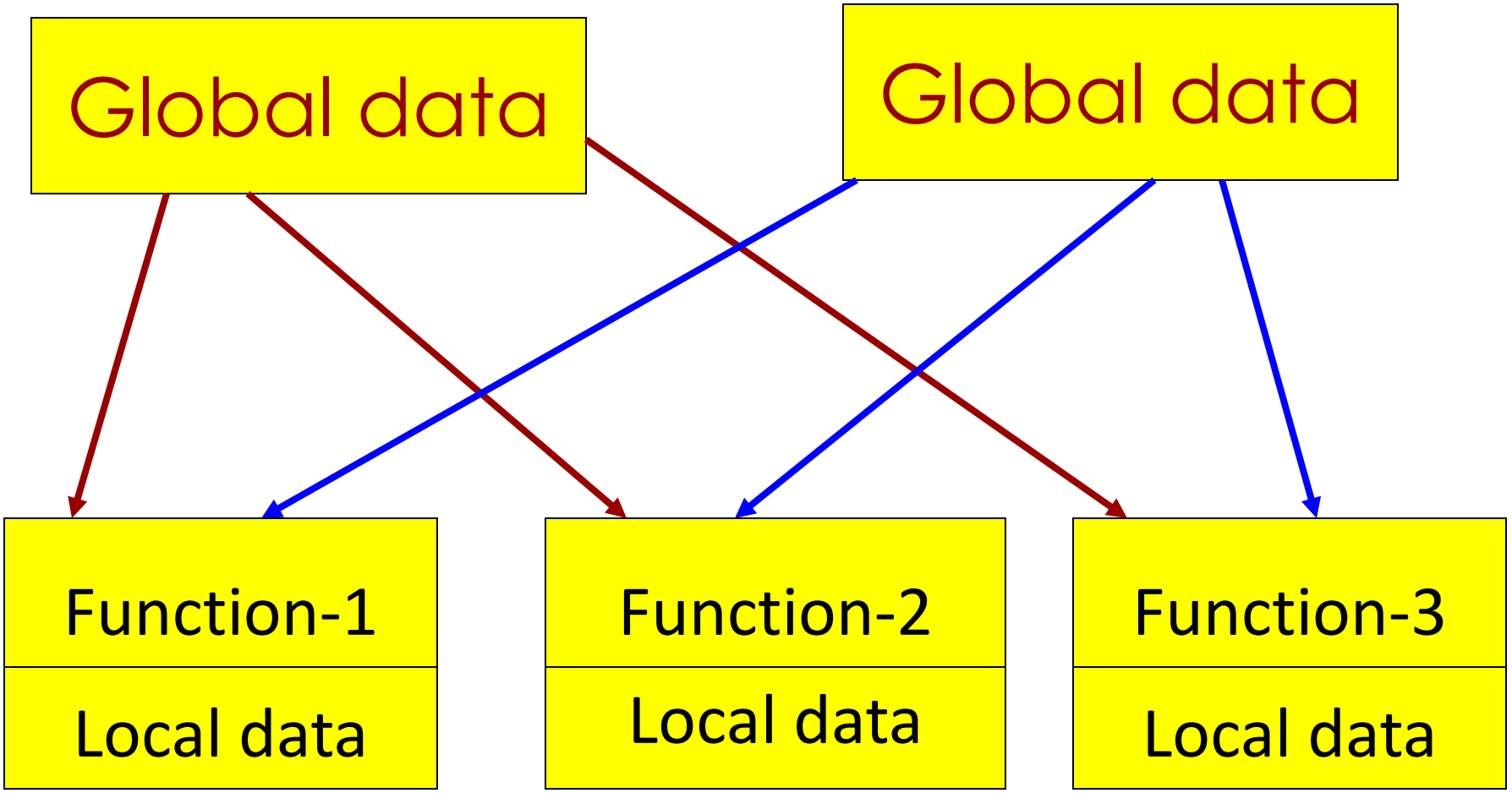

Fig. Relationship of Data and Functions in Procedural Programming

Some characteristics exhibited by procedure-oriented programming are:

- Emphasis is on doing things (algorithms).
- Large programs are divided into smaller programs known as functions.
- Most of the functions share global data.
- Data move openly around the system from function to function.
- Employs top-down approach in program design.

The major objective of Object-oriented approach is to remove some of the flaws encountered in the procedural approach. OOP treats data as a critical element in the program development and does not allow it to flow freely around system. It ties data more closely to the functions that operate on it, and protects it from accidental modification from outside functions. OOP allows decomposition of a problem into a number of entities called objects and then builds data and functions around these objects. The organization

of data and functions in object-oriented programs is shown in figure below. The data of an object can be accessed only by the functions associated with that object. However functions of one object can access the functions of other objects.

Some of the striking features of object-oriented programming are:

- Programs are divided into what are known as objects.
- Programs are divided into what are

known as objects.

- Functions that operate on the data of an object are tied together in the data structure.
- Data is hidden and cannot be accessed by external functions.
- Objects may communicate with each other through functions.
- New data and functions can be easily added whenever necessary.

- Follows bottom-up approach in program design.

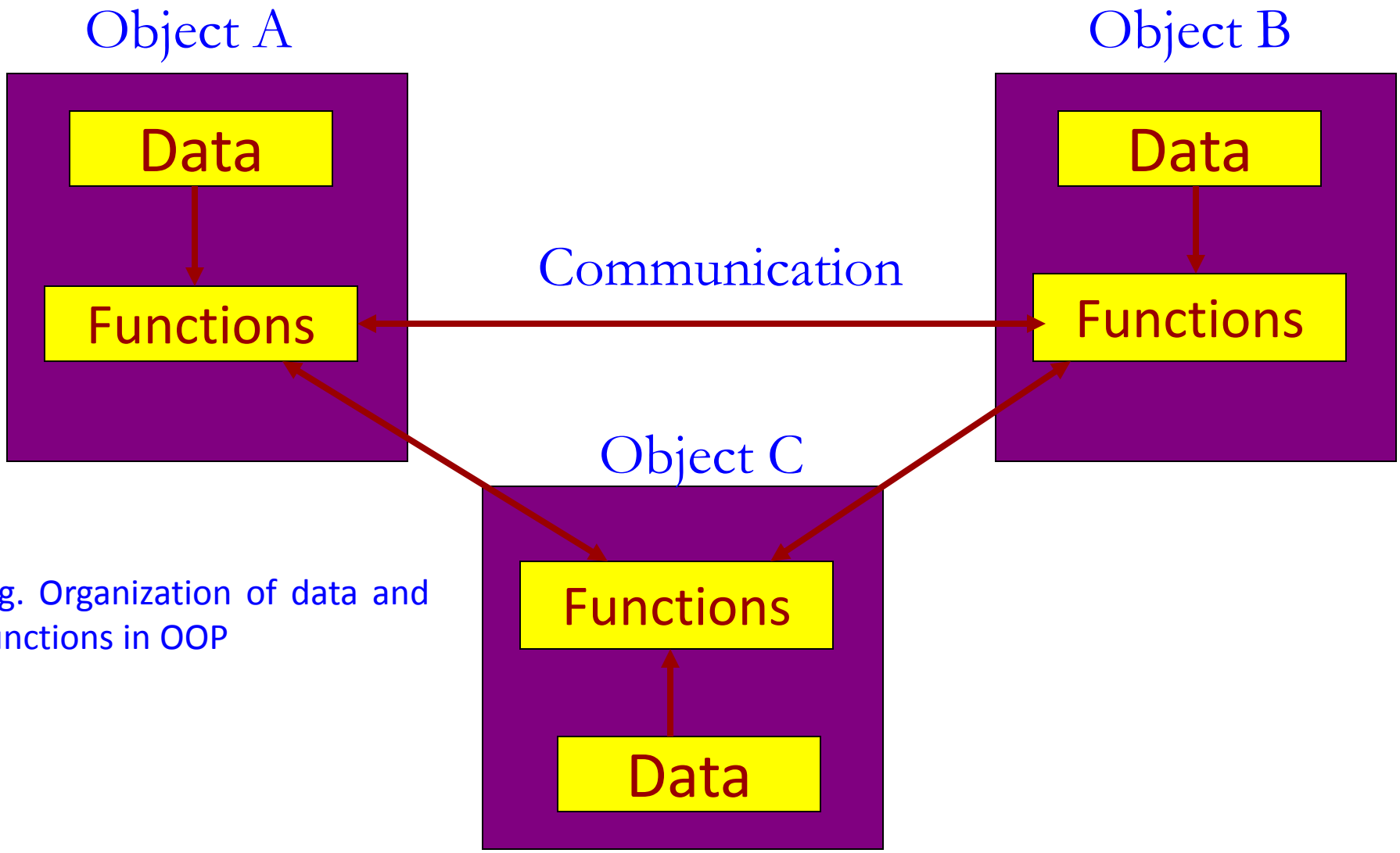

Fig. Organization of data and functions in OOP

"Basic concepts of Object-Oriented Programming "

It is necessary to understand some of the concepts used extensively in object-oriented programming. These include:

1. Objects and Classes
2. Data abstraction and encapsulation
3. Inheritance
4. Polymorphism

5. Dynamic binding

6. Message passing

1 Objects and Classes:- Objects are the basic runtime entities in an object-oriented system. They may represent a person, a place, a bank account, a table of data or any item that the program may handle. They may also represent user-defined data types such as vectors and list.Each data contains data and code to manipulate the data.

ترجمه فا
TarjomeFa.Com

این مقاله، از سری مقالات ترجمه شده رایگان سایت ترجمه فا میباشد که با فرمت PDF در اختیار شما عزیزان قرار گرفته است. در صورت تمایل میتوانید با کلیک بر روی دکمه های زیر از سایر مقالات نیز استفاده نمایید:

✔ لیست مقالات ترجمه شده

✔ لیست مقالات ترجمه شده رایگان

✔ لیست جدیدترین مقالات انگلیسی ISI

سایت ترجمه فا ؛ مرجع جدیدترین مقالات ترجمه شده از نشریات معتبر خارجی