

Unit :- III



* what is code? explain type of code?

=> code refers to the ordered collection of symbol design to provide unique identification of an entities or attributes.

=> Coding is translation of requirement into program.

=> Type of code are as follows:-

1) classification of code :-

A classification is by nature and ordered systematical structure a code is used to identify one class from another.

2) Function code :-

Function code state the activities or work to be performed without narrative descriptive statement.

=> E.g. A or 1 → To add record.

D or 2 → To delete record.

3) card code :-

card code allow the program between type of card and determine whether the contain of specific card are correct. This card codes are used in the punch card only which is used for batch process.

4) sequence code :-

sequence code use numbers or letter assign in series they tell the order in which the event have occurred. The code is simple to use and apply.

5) mnemonic code :-

mnemonic code produce few error than other type of code. it is combination of letters and numbers.

E.g. TU - CL - 16 refers to 16 inch color television set.

6) significant code :-

This uses sub code can provide a wealth of information to users.

⇒ significant code is meaningful code which can be assign number in sequence starting with the first and proceeding in a sequential manner to the last. It may also consist of a prefix to describe the type of item.

⇒ E.g. P or Pl refer to the product is plastic.

S or ST refer to the product is steel.

⇒ The registration number of student in examination can be of this form 17021978 where 17 stand for course of examination. 02 stand for course of student. 1978 stand for exam number of that student.

7) Non significant code :-

Non significant code may use letter and symbols from the product to describe it in way that communicate visually its representation from with the first letter of several word.

⇒ For example :-

MCA stand for master of computer

application.

CS stand for computer science.

BCA stand for bachelor of computer application.

* Explain the basic principle of code design?

1) modularity :-

Each system should consist of hierarchy module the module portioning is done according to specific function.

2) coupling :-

Coupling refers to the strength of relation between modules. loose coupling is recommended.

3) cohesion :-

Cohesion refers to the strength of relation within a module the data elements within a module should be strongly bound.

4) span of control :-

Span of control refers to the number of modules sub co-ordinates to calling

module. The span of control should be limited to five to seven modules. Modules should interact with and manage the function of limited number of lower level module.

5) size :-

The number of instruction comprising a module. module size should be generally small.

6) shared use :-

shared use refers to use of module by other calling modules. function should not be duplicated in separated module but established in single module that can be invoked by any other module when needed.

* what is form? what are the basic principles of form design?

⇒ Form is a tool with a message or can also be called as a physical carrier of information. It provide information for making decision and improving operations.

⇒ Form design become a highly skilled job as poorly trained people can design forms that confuse people is not clear.

⇒ Design of source document :-

The source document is the form on which the data are initially captured or recorded.

(a) Layout :-

Heading zone	control zone
Identification zone	
Detail zone	
message	Total zone

(b) captions and data capture

- (i) Line caption
- (ii) Boxed caption
- (iii) Bullet caption

⇒ Factors to be consider in form designs-

- (i) size and shape of the form should manageable.
- (ii) Materials in form should be arranged in logical order.

(iii) The form title should convey purpose.

(iv) Precise content should be recorded.

(v) Special features like security and control also to be considered.

(vi) Emphasis should be provided by shading columns, heavy lines etc.

(vii) Unnecessary content should not be included in form.

* Type of form :-

⇒ A printed form is generally classified by what it does in the system.

⇒ There are three type of forms:-

1) Action form

2) memory form

3) report form

1) Action form :-

An action form requests the user to do something get action.

For ex:- purchase orders and shop orders.

2) memory form :-

A memory form is a record of historic data that remains in a file is used for reference and serves as control on key details.

For ex:- Inventory record, purchase record

3) Report form :-

A report form guides supervisors and other administrators in their activities. it provides data on a project or a job.

For ex:- Profit and loss statements and sales analysis reports.

* what is input design? explain data validation of the input data?

⇒ Input design consist of developing specification and procedures for data preparation those step necessary to put transaction data into a useable form for processing the data entry. the activity of putting the data into computer for processing.

⇒ Five objectives guiding the designing of input focus on:-

- 1) controlling amount of input.
- 2) Avoiding delay processing delay resulting from data preparation or data entry operation is called bottle necks.
- 3) Avoiding errors in data.
- 4) avoiding extra steps
- 5) keeping the process simple.

* Input validation:-

Input validation consist of the following steps.

1) checking the transaction :-

- Batch control
- Transaction validation
- sequence test

2) checking the transaction delta :-

- existence test
- limit the range test
- combination test
- duplicate processing

3) modifying the transaction data :-

→ Automatic correction.

check digits.

→ Data validation include, ensuring that data is valid existence test, limit or range check and combination test are used to validate data.

Ensure Transaction data is valid

is valid

is invalid to error

Both control transaction validation sequence test completeness test

Existence test
limit or range
check, combina-
tion test,
duplicate
processing

Automatic
connection
check digit

* what is data capture and data validation?

Data capture :-

→ Data to be input is to be properly identified and verified so that unnecessary data is not input only data that changes or cannot be calculated should be input by the users.

=> Data capture refer to the method of identify, classify and collecting relevant data from the source document.

=> Constant data should not be entered.

Ex:- quantity is to be input by user but data or rule should be retrieved.

Data Validation

=> Data validation is required to check for validity of data is input some test are required to validate data those are as follow.

- 1) Existence test
- 2) limit and range test
- 3) combination test

* what is output design?

=> output report to my information procedure by and information system whether printed or display.

=> when catalyst design output they consider the following principles:-

- ⇒ Identify the specific output that is needed to meet the information requirement.
- 2) select method for presenting information
- 3) create document, report or other form that contain information produce by the system.

Key output question :-

⇒ Five question answered fully and properly help system analysis team a great deal about that the output of a newly design information system should be.

- 1) How will receive the output?
- 2) what is it's plan use?
- 3) How much detail is needed?
- 4) when and how often is the output needed?
- 5) by what method?

⇒ system analyst should answer this question for every output requirement.

⇒ whether the output is formatted report for simple listing of the

contain of a file a computer process will produce the output.

⇒ system output may be :-

- A report
- A document
- A message

⇒ output contain originate from this source :-

- 1) Retrieval from a data store.
- 2) Transmission from a process or system activity.
- 3) directly from a input source.

* Types of output :-

⇒ output of a system can take a different form input design.

⇒ The most common output are represent display on screen and printed form.

⇒ All this point must be kept in mind while designing output so that the object of designing output that system in best possible way.

⇒ A basic consider is that who will use the output and for which purpose.

⇒ output of data processing can be divided into two category :-

- (i) application output
- (ii) operating output.

(i) Application output :-

⇒ This output which is use for easy basic of decision making .this type of output is generally create by management for decision making process.

⇒ output is requirement to meet functional objective , purchase order, etc.

⇒ stationary output all organization use required to produce certain among of report like income tax certificate, provided fund.

(ii) operating output :-

⇒ operating output is mainly generated for developer, developer stuff and gives various identification as to how to operate the system for ex;

error message, system indicator are the example of such type of output.

→ The most important output device are printer, display unit, VDU, micro field, etc.

★ Printer :-

→ when large of volume of output is required.

→ when output is to be distributed in to various person inside or outside the organization.

⇒ when batch processing system are used printer is the one of the common output device.

★ VDU :-

⇒ Video display unit is use cathode ray tube for display purpose. they have keyboard which used for entering the data.

⇒ VDU are widely used online system to display result and answer to query.

* what is conversion ? describe all conversion method with its advantages and disadvantages.

⇒ conversion is the process of changing from the old system to new system.

⇒ The conversion method are :-

- 1) Direct cut over method.
- 2) Parallel method.
- 3) Pilot method.
- 4) Phase in method.

⇒ Direct cut over method :-

Direct cut over method convert from old to new system. The old system usefull today evening and tomorrow morning onward new system operates. The old system is discontinued immediately and new one started.

⇒ Advantages :-

⇒ Forces user to make new system work.

⇒ There are immediate benefit from new method and control.

⇒ Disadvantage :-

⇒ No system to callback on incase the new system is not successful.

⇒ Requires almost planning.

2) Parallel method :-

In this approach the old and new system are operated together. This method is safest conversion method as it guarantee that the organization can still callback to the old system without loss of time revenue or service.

⇒ Advantages :-

⇒ Offers greatest security.

⇒ Old system can take over if new system fails.

⇒ Very useful method for heavy online transaction.

⇒ Disadvantages :-

⇒ It double operating cost as both the old and new system operate.

⇒ The new system may not get fair trial.

3) Pilot method :-

In this method working version of system implementation one part of organization once the feedback is received changes are made and system is installed in other part of organization.

⇒ Advantages :-

- ⇒ Provide experience and live test before implementation.
- ⇒ This method useful for new developer with little experience.

⇒ Disadvantages :-

- ⇒ may give the impression that the system is unreliable and erroneous.
- ⇒ Biased approach by employees may not allowed fair trial for the new system.

4) phase in method :-

This method is used when it is not possible to install new system throughout organization at once. The conversion of file, training a personal or arrival of equipment may force the staging of the implementation over a period of time.

changing from week to month.

⇒ Advantages:-

⇒ Allow the some user take advantage of system early.

⇒ Allow training and installation without unnecessary use of resource.

⇒ Disadvantages:-

⇒ Cost of implementation is high.

⇒ over enthusiasm, resistance and lack of fair trial.

* What is documentation? and list out the type of documentation?

⇒ A system cannot be completed effective unless it is accurate document.

⇒ Instructions and narrative description must be prepared for every phase and part of the system logic, timings, user instructions, guidelines for operation stuff and instructions related to transmission of data and result.

⇒ Types of documentation are :-

- 1) Program documentation
- 2) operation documentation
- 3) User documentation
- 4) management documentation
- 5) system documentation

⇒ Program documentation :-

⇒ system analyst must provide programmers with required documentation in terms of flowchart, decision table, etc.

⇒ Four item constitute normal documentation required for each program.

⇒ copying :-

copying in final form of all input and output document.

2) statement of standard for coding structures and input output layouts.

3) classification of the program interface with related program.

4) general flowchart or decision table.

⇒ Programmer's responsibility on documentation to provide information to enable future program to make necessary changes.

2) Operation Documentation :-

⇒ A well-designed system may run for a long time with little and no assistance from the system department.

⇒ It is collection of operator instructions for each program at installation and typically contains :-

(i) Narrative describing the sum.

(ii) listing of the programmed error condition.

(iii) detailed information for running the job including.

⇒ input output form to be used.

⇒ Anti-supped problems areas and how to handle them.

⇒ detailed description of file assignment of each input-output device.

⇒ disposition of data files after completing the job.

⇒ general block diagram of programming logic.

⇒ restart procedures.

3) User Documentation:-

- ⇒ user documentation system user require documentation to prepare a developing and to smoothly carry out existing one.
- ⇒ The manual should supply the following information:

- 1) general flowchart of the system.
- 2) Assignment of responsibility for specific task.
- 3) standard for workflow, including targets dates and deadline.
- 4) simple input output document.
- 5) detail procedure.
- 6) Antiseptic exception on how to handle them.
- 7) Accuracy standard for the data in system.

4) management documentation:-

- ⇒ The documentation required by corporate differ a quite a lot from that required by users.
- ⇒ The system designer must know the requirement of the management and provide documentation to enable management to perform three function.

1) Evaluate progress on system development.

2) monitor existing system.

3) understand the objective and methods of new and existing system.

⇒ A brief manual highlighting the key steps in each system may be prepared for management.

4) system documentation :-

⇒ The written system mainly a statement of the user's problem.

⇒ The selection committee must specify the following :-

⇒ The objective of impending feasibility study.

⇒ The extend of authority of feasibility team.

⇒ The individual or group responsible for completing the study.

⇒ A feasibility report is the most important form of documentation containing.

- ⇒ It defines the objectives of the proposed systems change in reasonable detail after a sufficient detailed study.
- ⇒ It gives the plan to attain this objective.
- ⇒ During system design the designing team produce the following form of documentation:-

1) File specification :-

Detailed definition of each file in the system, best done in graphic form.

2) Transaction specification :-

Detailed description of each type of input in the system, including a layout of each transaction and narrative description of how it is used.

3) Output specification :-

Detailed description of all output generated from the system.

* what is testing? Explain level of testing in detail?

⇒ Testing is the process of executing a program with the explicit intention of finding errors.

⇒ For example:- making the program with fail a successful test is one that finds an error.

⇒ System testing is expensive and critical process as it can consume fifty percentage of the total budget for software development.

⇒ Level of testing are :-

- 1) Unit testing
- 2) System testing
- 3) Special system testing.

1) Unit testing :-

⇒ In a unit testing catalyst test program making a software.

⇒ Unit testing first focus on the modules, independent one another to locate errors.

⇒ Unit testing can be perform bottom up starting with smallest and lowest level module and proceeding one at a time.

⇒ This is call bottom-up testing.

⇒ Top-down testing begin with shell that can be call by the upper level module.

⇒ A stub is a module shell that can be call by the upper level module and that when reached properly with written a message to the calling module that proper interaction occurred.

2) system testing :-

⇒ system testing test the integration of each module in the system.

⇒ The primary concept is the compatibility of each module in the system.

⇒ system testing must verify that file size are accurate and have been built properly.

3) special system testing :-

⇒ There are other test called special system test focusing on particular criteria.

⇒ The special system test are as follow:-