1. A data flow may physically be contained in a letter or an invoice, in a phone call, from program to program, via a satellite data link, anywhere data pass from an entity or process to another.

2. A process may physically be clerks making calculations or a combination of manual and automated activities.

3. A data store can be a card file, microfiche, filing cabinet, table, or file on tape or disk.

4. **Decision tree:** in which each of the branches correspond to each of the logical possibilities. In a decision tree, it is easy to know the combination of circumstances that lead to each action very clearly. While the decision tree shows the decision structure very well, it does not incorporate the instructions or calculations.

5. If we need to write down the logic as a step-by-step set of instructions, including the decision structure and intermediate calculations, then we may use a logical form of structured English because it has logical constructs similar to those of structured programming. In structured English, instructions that carry out actions are written as imperative statements and if a decision needs to be made then it is expressed as a combination of if, then, else.

6. **External entity:**

   (a) External entities are general logical classes of things or people that represent a source or destination of transactions. (e.g: customers, employers, aircraft, taxpayers, account department..etc)

   (b) External entities can be symbolized by squares with the upper and left corners in double thickness. An entity can be identified by a lower-case letter in the upper left-hand corner of the box.

   (c) To avoid crossing data flow lines, an external entity can be drawn more than once on the same diagram, the two or more boxes per entity can be identified by an angled line on the lower right-hand corner.

   (d) If another entity is to be duplicated, it is represented with squares with two angled lines and so on.

   (e) By designating something as an external entity, we are implicitly stating that it is outside the boundary of the system we are considering.

7. **Data flow:**

   (a) is symbolized by an arrow, preferrably horizontal or vertical, with an arrow-head showing the direction of flow.

(b) A double-headed arrow may be used in place of two arrows if data flows are paired.

(c) A data flow may be referenced by giving the process, entities or data store as its head and tail.

(d) Each data flow should have a description of its contents written alongside it. A description should be chosen that is as meaningful as possible.

8. **Process:**

(a) To describe the function of a process and for easy reference we should give each process a unique identifier.

(b) A process can be symbolized by an up-right rectangle with the corners rounded, and it is divided into three areas:

(c) Identification:

i. is a number that is initially allocated from left to right accross a data flow diagram. Once assigned, a process identification should not be changed.

ii. Each process in the high-level diagram of a system can be exploded into a data flow diagram on its own. Each lower-level process needs to