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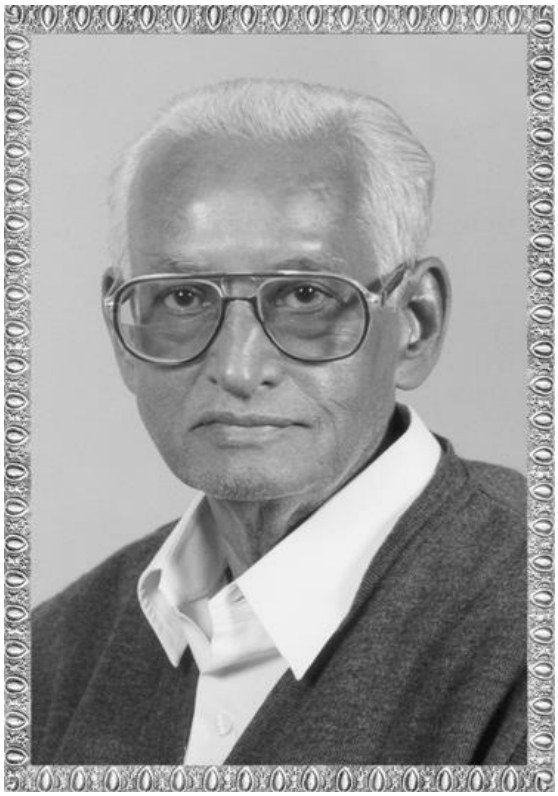

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BCA/BSCIT SEM-1 Computer Funda.

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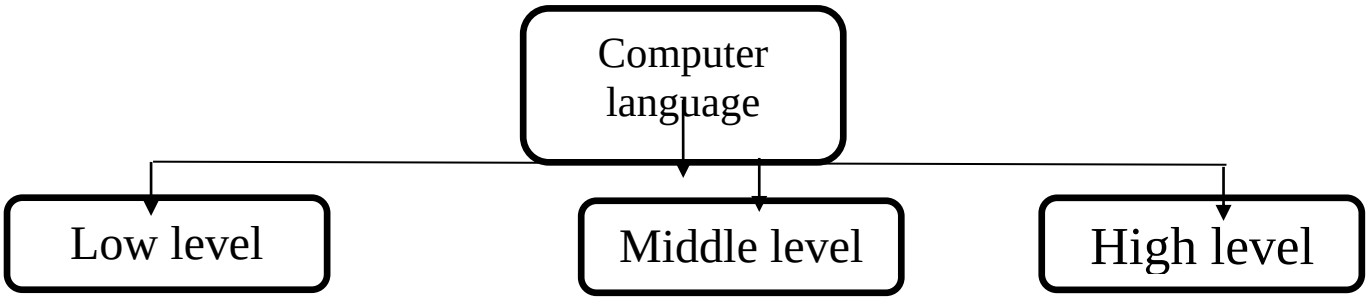
CH 4 operating system, computer language and number system

Q-**1.what is computer language? Explain types of computer Language.** **(3 marks)**

- Language is way of communication.
- Programming language consists of all the character and symbol to Communication with the computer system.
- They are created for special purpose.
- Types of computer language.



1.Low Level Language:-

- Machine language and assembly language are known as low level language.

(I)Machine Language:-

- Machine language is also known as binary language.
- It is made of only two symbols like (0,1)
- There is special binary code for each instruction.
- Machine language very fast run program.
- No need to any translator.
- using this language user must need hardware language.

(i) Assembly Language:-

- Machine language use binary code its very difficult to understand.
- Assembly language use some special symbol and special function.
- Special function like add, sub, mul, div, and, mod.

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- It is use special symbol like?, @, +, -, * and many more.
- It is easy to understand.
- In this language translator is must required.

2. Middle Level Language:-

- Some language use the feature of low level language as well as high Level language such language are known as middle level language.
- c and c++ are middle level language.

3. High Level Language:-

- To write program in any language user has no remember of any code.
- high level language are easy to use.
- in high level language user does not need knowledge of hardware.
- it is most popular language today.
- in this language translator is required.

Q-2. Explain language translator.

OR Explain language processor.

- Computer can understand only binary language like 0 or 1.
- Basically computer can only use machine language, for this language Translator are use.
- Language translator convert human language into machine language.
- There are three types of language translator like assembler, complier and interpreter.

1. Assembler:-

- Assembler is use in assembly language.
- This translator is use to convert the program into machine language.

2. Complier:-

- Complier are use in high level language.
- Complier are use to convert high level language into machine language.
- it check error line by line.

3. Interpreter:-

- It is also use to convert high level language into machine language.
- It check error statement by statement.

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Q-3.Explain types of operating system in details.

Operating system:- (OS)

- Operating system is system software which act as interact between user and Computer hardware.
- Operating system communicate between user and computer.
- Operating system is most important software.
- Without operating system we cannot operate computer.
- There are many types of operating system like batch processing operating System, multi programming operating system, multi processor operating System and time sharing operating system.

1. Batch processing operating system:-

- It is also called serial processing and sequential processing.
- In this type of operating system computer can collect program/data and process in one by one.
- It is first come first come first out system.
- Punch card and payroll system are example of this operating system.

2. Multi programming OS:-

- In this OS computer system support more than one program at a time.
- It means we can perform word, excel, PowerPoint, google at a time.

3. Multi processor OS:-

- In this type of operating system that made use of more than one CPU.
- It can improve the performance of computer system.
- in case of any one CPU is fail than other CPU is take over all the work without loss of data.

4. Time sharing OS:-

- It is from of multi processing OS which operate instructive mode in quick response time.
- It is allow number of users to use one computer at a time.
- In this type of OS cpu is divide time in between all the user.

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Q-4. Explain software package.

OR

Explain application software package. (5 marks)

- Application software is type of software which is design in order to perform specific task.
- for example we might want to do some official work like writing letter and putting notice to make slide and to make some calculation.
- In this case we need some software packages.
- There are verity of software package available today like.
    1) **Word processing software**
    2) **Spread sheet software**
    3) **presentation software**
    4) **database software**
    5) **graphical software**

1. word processing software:-

- word processing is software which has all the facility can be apply on the word.
- we can process on word or entire document.
- this type of effect is use in word processing software package.

2. spread sheet software:-

- spread sheet is table or matrix of row and column.
- the enter section of row and column is call cell.
- cell can hold the date include number, formula and text.
- excel is example of speard sheet document.

3. presentation package:-

- there are some presentation software available and we fulfill our requirement.
- presentation program is package use to display information in the form of slide show.
- power point is example of this package.

4. data base package:-

- database management system just call database manager is a program that one or more computer user creat and access data in the database.
- access is example of this package.
- database is collection of tables it store all the user data.

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5. graphics software:-

- graphics software is form of application software for the use of edit ,creat and view the graphical file.
- this program allow to view photographer or digital media.
- 3d studio, corel draw, and photo shop are example of this package.

6. Animation software:-

- computer animation describe any animations.
- we can creat wide range of animation,
- creat animation we can use this software package.
- cinema 3D and 4D, micro media, flash, blander and maya are example of animation software.

Ch-4 part-2(number system)

Bit:-

Bit means binary digit.
It is a smallest storage unit into the computer.
Bit can hold only one of two value like 0 and 1.
It is binary digit.
Bit use only number not a character.

Nibble:-

Nibble is a part of computer storage .
Nibble is combination of 4 bits.
4 bits = 1 nibble.
It is not used today.
Half byte is called nibble.

Byte:-

Byte is collection of 8 bits.
1 byte = 8 bits.

Carry Bit:-

When we go through Binary Arithmetic Operations at that time Carry Bit is used.
In elementary arithmetic, a carry is a digit that is transferred from one column of digits to another column of more significant digits.

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An Arithmetic operation that occurs in the course of addition when the sum of the digits in a given position equals or exceeds the base of the number system. If there are two digits while doing addition, the right most digit is kept and left digit is carry forwarded to the nearest left digit which is called "Carry Bit".

In processors, the special bit called "Carry Flt" is kept which indicates that some arithmetic "Carry" or "Borrow" has been generated out of some bit operations. Then that particular bit is considered to be present if it is "true". "true" means carry has to be forwarded else no carry is considered.

Parity Bit:-

In computers, "Parity" or "Parity Checking" refers to a technique of checking whether data has been lost or written over when it's moved from one place in storage to another or when transmitted between computers.

"Parity" is also referred as "Parity Checking" which is a technique used to detect memory or data communication errors.

Here's how it works: An additional binary digit, the parity bit, is added to a group of bits that are moved together. This bit is used only for the purpose of identifying whether the bit being moved arrived successfully.

Before the bits are sent, they are counted and at the total number of data bits is even, the parity bit is set to 1. If the total number of data bits is already an odd number, the parity bit remains or is set to 0.

Sign Bit:-

As the name indicates, Sign Bit is used to represent the sign of numbers which are stored. The sign bit is a bit in a computer numbering format that indicates the sign of a number. Typically if the sign bit is 1 the number is negative(in some cases) while 0 indicates a positive number.

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Storage area :-

1 bit=	**0 and 1**
1 nibble=	4 bits
1 byte =	8 bits
1024 bytes =	1 kb(kilo byte)
1024 kb=	1mb(mega byte)
1024 mb=	1gb(giga byte)
1024gb=	1 tb(tera byte)
1024 tb=	1pb(peta byte)
1024 pb=	1 eb(exa byte)
1024 eb=	1zb(zetta byte)
1024zb=	1 yb(yotta byte)

Que - Explain number system in detail.

Ans:-

- There are 4 types of number system.

  Like
  1) Binary number system(2)
  2) Octal number system(8)
  3) Decimal number system(10)
  4) Hexa decimal number system(16)

- **Binary number system:-**

- Base:-2
- No of symbol :- 2
- Symbol :- 0,1.
- **Ex:- $(10)_2$**

- **octal number system:-**

- Base:-8
- No of symbol :- 8
- Symbol :- 0,1,2,3,4,5,6,7.
- **Ex:- $(1457)_8$.**

- **decimal number system:-**

- Base:-10
- No of symbol :- 10
- Symbol :- 0,1,2,3,4,5,6,7,8,9.

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- **Ex:- $(57789)_{10}$.**

- **Hexa decimal number system:-**

- Base:-16
- No of symbol :- 16
- Symbol :- 0,1,2,3,4,5,6,7,8,9.A(10),B(11),C(12),D(13),E(14),F(15)
- **Ex:- $(ABC8)_{16}$.**

Q- Explain types of code.

Ans:-

- Most computer not represent character as a pure binary number.
- They use coded version of binary to represent letter and special symbol.
- There are four types of codes like

1) BCD
2) ASCII
3) EBCDIC
4) UNICODE

1) BCD:

- Binary coded decimal.
- Convert binary to decimal number system.
- Computer perform this process automatic.

Decimal	Binary
0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	0111
8	1000
9	1001

ASCII:-

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- American standard code for information interchange.
- It is represent English character as a number.
- Ascii provide 0 to 127 unique code for each small and capital letters and special symbol.
- For example:- ascii code for m is 77.
- Ascii is developed by American national standard institute.(ansi).
- Most language used ascii code in programming.

EBCDIC:-

- Extended binary coded decimal interchange code.
- It can represent 8 bit binary number.
- It can display 256 unique character.
- This code is use in ibm machine.

UNI CODE:-

- It means unique code.
- Unicode is computing industry for the represented and handle variety of text and symbol written in computer.
- Uni code provide the unique number for the every character.
- No matter what the platform.
- No matter what the program and no matter what the language.

q- explain parity bit(explain parity check)

ans:-

- Parity bit is a technique to detect the error into the program.
- Paritybit detect error it will never correct but only detect.
- At the time of program execution computer can add 1 bit into our data this bit is called parity bit.