



**पुर्णा International School**

Shree Swaminarayan Gurukul, Zundal

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## CH-1 COMPUTER LANGUAGES AND SOFTWARE

### ❖ Focus of the chapter

1. Generations of computer languages
2. Differences between low-level and high-level languages
3. Computer software and its types
4. Conversion of binary numbers into decimal numbers and vice-versa

### ❖ Keywords

- **Low-level language**-a computer language that is in binary form or in a form similar to it.
- **High-level language** -a computer language that is closer to human language.
- **System software** – software used to operate and control hardware and run application software
- **Application software** – software used to do specific tasks.
- **General Purpose Software** – Software that provides features that can be used by a majority of users.
- **Customized software** – Software specially designed to fulfill the particular requirements of users.

### ❖ Checkpoint

### ❖ Match the columns.

1	Machine language	a	Designed to fulfill the requirements of a particular individual or company.
2	System Software	b	Used to create, store, modify and sort data in a database
3	Assembler	C	Developed to operate and control the computer hardware
4	Database management system	D	Translates programs written in assembly language to machine language
5	Customized software	E	Programs written in binary form

❖ Ans. 1- e 2- c 3- d 4- b 5- a

❖ **Exercise Corner**

➤ **Tick(✓) the correct answers.**

1. C, C++ and C# are types of which of the following?

A. High-level languages

2. Windows 7 is a/an

A. Operating system

3. Which of the following is a spreadsheet program?

A. Lotus 1-2-3

4. The binary number system uses only

A. 2 single digits

5. Which of the following is the base of the binary number system?

A. 2

**B. Fill in the blanks.**

1. The first and second generation languages are low-level languages.

2. Artificial intelligence languages are fifth generation languages.

3. Some popular fourth generation languages are PL/SQL, Foxpro, Stata, Oracle and Visual Basic.

4. Some popular fifth generation languages being developed are Mercury, OPS5 and Prolog.

5. The full form of BASIC is Beginners' All Purpose Symbolic Instruction Code

**C. Match the columns.**

1	Robots	a	Adobe Photoshop, Paint and OpenOffice Draw
2	Device drivers	b	Disk Defragmenter, System Restore, Antivirus and Disk Cleanup
3	Utility programs	c	CorelDRAW, INDesign, QuarkXPress and Microsoft Publisher
4	Drawing and Painting software	d	Software used to control printers, speakers, hard disk drives, and so on
5	DTP software	e	Systems working with artificial intelligence

Ans.1- e 2- d 3- b 4- a 5- c

**D. Name the following.**

1. Software that must be installed into a computer before running any other software.
  - A. Operating system
2. Software that is specially designed to fulfill the requirements of a particular individual or company
  - A. Customized Software
3. Software used by engineers, architects and designers to produce detailed design plans and technical drawings.
  - A. CAD
4. Software that provides many features and can be used by a majority of users.
  - A. Word Processing Software
5. Number system that consists of 10 digits, 0-9 with base 10
  - A. Decimal Number System

**E. Give two examples each of the following.**

1. Third generation languages - C, C++
2. Operating Systems - Windows 7, windows 10
3. Word processing software - MS WORD, OK WORD
4. Presentation software - MS Powerpoint, Corel Presentation
5. DBMS Software - Microsoft Access, Oracle
6. Graphics Software - Adobe Photoshop, MS Paint

**Extras**

➤ **Tick(✓) the correct answers.**

1. Which of the following is the low-level language?
  - a. C
  - b. C++
  - c. Java
  - d. machine language
2. Which of the following is the high-level language?
  - a. C
  - b. C++
  - c. Java
  - d. all of these
3. Which of the following is the system software?
  - a. Java
  - b. C++
  - c. MS WORD
  - d. Windows 7

4. Which of the following is the application software?

- a. MS Word                      b. windows 7c. windows xpd. all of these

5. Which of the following is used to create, modify and sort data stored in database?

- a. DTP                      b. MS Word                      c. Writer                      d. DBMS

## CH-2 Formulas and Functions in MS EXCEL 2010

### ❖ Focus of the chapter

1. Cell address, range and reference
2. Formulas
3. Cell references in formulas
4. Entering a formula
5. Calculations using formulas
6. Copying formulas
7. Errors
8. Functions
9. AutoSum

### ❖ Keywords

- **Range** – a selected rectangle block of two or more cells
- **Formula** – An equation used to perform calculations in Excel
- **Cell reference** – cell address or range used in formula
- **Fill handle** – a feature used to extend a formula into selected cells.
- **AutoSum** – a feature used to insert the functions of sum, average, count numbers, Max, Min and so on.

❖ **Checkpoint 1**

**Fill in the blanks.**

1. A selected rectangular block consisting of two or more cells in it is called acell range or range
2. A formula begins with an equals(=) sign.
3. In absolute cell reference, the reference of a cell does not change.
4. The absolute cell reference for the cell located in column F and row 6 is \$F\$6
5. The length of a formula cannot be more than 8192 characters.
6. The #DIV/0! Error is displayed in a cell when a number is divided by zero.

❖ **Checkpoint 2**

**Fill in the blanks.**

1. A predefined formula is known as a functions.
2. The values on which the operations are performed are called arguments
3. The output of =POWER(2,3) is 8
4. SUM function is used to find the sum of the given numbers or a series of cells.
5. COUNT function is used to find out how many cells contain a number and not text.

❖ **Exercise Corner**

**A. Tick (✓) the correct answers.**

1. What is a cell address in a formula called?  
A. Cell reference
2. Which of the following is used to copy a formula in other cells ?  
A. Fill handle
3. Which of the following is a function in Excel?  
A. Sum
4. Which of these functions is used to calculate the value of a number raised to a power?  
A. POWER
5. Which of the these functions is used to find the highest number in a set of numbers or a series of cells?  
A. MAX

**B. Fill in the blanks.**

1. The cell address AA119 represents the row heading 119 and the column heading AA.
2. The absolute cell reference for a cell located in row 89 and column L is \$L\$89
3. Functions are found under the formulas tab.
4. COUNT is a type of statistical function.
5. =PRODUCT(5,12,13) will give the output as 780
6. =POWER(5,4) will give the output as 625
7. Autosum is a shortcut to insert functions of Sum, Average, Count , Max and Min.

**C . Match the columns.**

1	Formula	a	Dollar sign
2	Relative cell reference	b	Predefined formula
3	Absolute cell reference	C	As default in Excel
4	Functions	D	Shortcut in the Formula tab
5	AutoSum	E	equation

Ans.1- e 2- c 3- a 4- b 5- d

**D . Give examples.**

1. Cell range – A1:B4
2. Absolute cell reference - \$A\$2
3. Errors - #DIV/0!
4. Statistical functions – MAX, MIN

**E . Give the use of the following functions.**

1. SUM – It is used to find the sum of the given numbers or a series of cells.
2. QUOTIENT – It is used to find the quotient when one number is divided by another.
3. POWER – It is used to calculate the value of a number raised to a power.
4. MIN – It is used to find the minimum number from a set of numbers.



5. COUNT – It is used to count how many cells contain a number and not text.

6. PRODUCT – It is used to multiply the given numbers.

### Extras

➤ **Tick(✓) the correct answers.**

1. Which of the following functions is Mathematical function?

- a. SUM                      b. PRODUCT                      c. POWER                      d. all of these

2. Which of the following functions is used to find the sum of the given numbers?

- a. SUM                      b. PRODUCT                      c. POWER                      d. all of these

3. Which of the following functions is used to find the quotient when one number is divided by another?

- a. SUM                      b. PRODUCT                      c. POWER                      d. QUOTIENT

4. Which of the following functions is used to multiply the given numbers?

- a. SUM                      b. PRODUCT                      c. POWER                      d. QUOTIENT

5. Which of the following is used to find the minimum number from a set of numbers?

- a. SUM                      b. MAX                      c. MIN                      d. QUOTIENT

### CH-3 More Features of Excel

❖ **Focus of the chapter**

1. Sorting data
2. Filtering and advanced filtering
3. Conditional formatting
4. Charts
5. Printing a worksheet


❖ **Keywords**

➤ **Sorting** – arranging data in ascending or descending order

- **Filtering** – a quick way to find a specific set of data in a range
- **Conditional formatting** – formatting data in one or more cells according to a specified condition or given criterion
- **List range** – a range of cells to be filtered
- **Criteria range** – a range of cells in which the filtering criteria are specified.

❖ **Checkpoint**

**Write T for True or F for False.**

1. Excel can be used to sort and filter data in a worksheet. - T
2. Filter is a quick way to find a specific set of data in a range. - T
3.  icon indicates that the filter has been removed. - F
4. Filtering feature permanently hides the data that you do not want. - F
5. Conditional Formatting feature is used when you have to format data in only one cell. - F

❖ **Exercise Corner**

**A. Tick (✓) the correct answers.**

1. Under which of the following tabs are sort, filter and advanced filter found?
  - A. Data
2. Which of the following tabs can be used for conditional formatting ?
  - A. Home
3. Which of the following tabs can be used to insert a chart in a worksheet?
  - A. Insert
4. Which of the following tabs can be use to change the chart type?
  - A. Design
5. Which of the following tabs can be used to add a chart title?

6. Which of the following tabs can be used to change the font and font color of the chart title?

A. Format

7. Which of the following tabs can be used to print a chart worksheet?

A. File

**B. Fill in the blanks.**

1. The Sorting data feature is used to sort data in ascending or descending order.
2. The sort and filter options are found in the data group.
3. To use the Advanced filter feature, you need to define the list range and the criteria range.
4. A line chart is used to show trends over time using lines.
5. Design, Layout and Format are three new tabs that appear on the ribbon under chart tool

**C . Match the columns.**

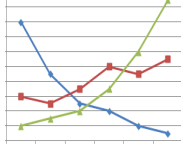
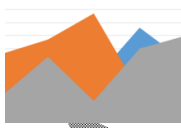

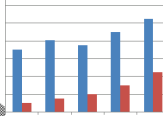
1	Filter	a	Formats data as per the specified condition
2	Chart	b	Arranges data in ascending or descending order
3	Sorting	C	Temporarily hides the unwanted data
4	Conditional Formatting	D	Represents data in a pictorial manner

Ans.1- c 2- d 3- b 4- a

**D . Who AM I?**

1. You can use me to arrange data in a column in descending order. - Sort
2. You can use me to temporarily hide the data that you do not want - Filter
3. I have gridlines, legends and axes. - chart
4. I am a type of chart used to compare parts of a whole – Pie
5. I am used to take a hardcopy of your worksheet. – print

**E . Match each chart type icon to its name.**

1	Area	a	
2	Line	b	
3	Column	c	
4	Pie	d	

Ans.1- b 2- a 3- d 4- c

**Extras**

➤ **Tick(✓) the correct answers.**

- Which of the following type of chart uses to show trends over time using lines?
 

a. Column      b. Line c. Pie      d. Bar
- Which of the following type of chart uses to compare using vertical bars?
 

a. Column      b. Line      c. Pie      d. Bar
- Which of the following type of chart uses to compare data using horizontal bars?
 

a. Line b. Bar      c. Area      d. Column



3. The FOR...NEXT loop is used when we know the exact number of times the loop has to be executed.

4. In a FOR...NEXT loop, the count variable controls the number of times the loop is executed.

❖ **Exercise Corner**

**B. Tick (✓) the correct answers.**

1. Which of the following is not a QBasic statement?

A. EXIT

2. Which of the following is a one way decision-making statement ?

A. IF...THEN

3. Choose the correct default value of incrementing the counter variable in a FOR...NEXT Loop.

A. 1

4. In the IF...THEN...ELSE statement which section contains the statements to be executed if the condition is true?

B. THEN

5. Which of the following tabs condition is true for a DO...LOOP WHILE loop?

A. The loop body is executed first before checking the condition.

6. Which value in a FOR...NEXT with STEP loop can either be positive or negative?

A. STEP

**B. Fill in the blanks.**

1. The GOTO statement is used to transfer the program control from one statement to another.

2. CTRL and BREAK keys are used to end an infinite loop.

3. The repeated execution of a set of statements is called Looping.

4. The DO WHILE...LOOP is an entry controlled loop.

5. When a loop is present inside another loop, it is called nested loop.

6. The WHILE...WEND loop is functionally equivalent to the DO WHILE...LOOP

**C . Write T for True or F for False.**

1. The order of execution of the statements in a program cannot be changed. F
2. In a FOR...NEXT loop, the NEXT statement signals the end of the loop. T
3. The STEP value in a FOR...NEXT with STEP loop can only be positive. F
4. The DO WHILE...LOOP repeats as long as the condition holds true. T
5. In a nested loop, the inner loop must end before the outer loop. T
6. The WHILE...WEND loop is an exit controlled loop. F

**Extras**

➤ **Tick(✓) the correct answers.**

1. Which of the following statements is used to transfer the program control from one statement to another?

- a. GOTO                      b. DO..LOOP                      c. DO WHILE...LOOP                      c. WHILE LOOP

2. Which of the following statements repeats the statements depending upon the condition placed either after DO or after LOOP.

- a. GOTO                      b. DO..LOOP                      c. DO WHILE...LOOP                      c. WHILE LOOP

3. Which of the following is a one way decision making statement that checks condition and executes statements after THEN.

- a. GOTO                      b. DO..LOOP                      c. DO WHILE...LOOP                      c. IF...THEN

4. Which of the following is created for repeated execution of a statement or a set of statements.

- a. loop                      b. vloop                      c. sloop                      d. rloop

5. Which of the following is a set of rules for a programming language?

- a. loop                      b. Syntax                      c. operator                      d. keyword

## CH-5 Graphics in QBasic

### ❖ Focus of the chapter

1. Using graphics
2. SCREEN statement
3. COLOR statement
4. LINE statement
5. CIRCLE statement
6. PAINT statement
7. Using sounds

### ❖ Keywords

- **Pixel** – one of the small dots that make up an image on a screen.
- **Resolution** – sharpness of an image measured in pixels per inch(ppi)
- **coordinates** –pair of numbers used to indicate the position of a point in 2-dimensional system

### ❖ Checkpoint

#### A. Fill in the blanks.

1. The screen resolution is determined by pixels.
2. Text mode and graphics mode are the two modes of QBasic
3. The screen 12 statement is used for the highest resolution.
4. Text mode is the default mode of Qbasic.

#### B. Write T for True or F for False

1. The line statement is used to draw a curved line between two points. F
2. Text mode is the default mode of Qbasic. T
3. SCREEN 2 in the most frequently used screen mode. F
4. No graphics can be created in SCREEN 0 mode. T



❖ **Exercise Corner**

**A. Tick (✓) the correct answers.**

1. Which of the following terms is related to pixels?  
A. resolution
2. Which of the following is displayed by the graphics mode on the computer screen?  
A. Both text and graphics
3. Which statement is used for high-resolution graphics mode?.  
A. SCREEN 2
4. Which color is denoted by the digit 7?  
A. white
5. What is the meaning of SA in the syntax of the CIRCLE statement?  
A. Starting angle
6. Which of the following statements is used to fill an area with a specified area?  
A. PAINT
7. Which of the following units is used to measure frequency?  
A. Hertz

**B. Write T for True or F for False.**

1. The CIRCLE statement can be used to draw an arc. T
2. It is not necessary to define the coordinates of the centre of a circle. F
3. The syntax of the PAINT statement consists of X,Y coordinates. T
4. In the “SOUND f, d” statement, ‘d’ stands for distance. F
5. The frequency of sound is measured in ‘Hertz’. T

**C . Write the syntax of the following statements.**

1. SCREEN – SCREEN <mode>
2. COLOR – COLOR<foreground color>, <background color>
3. LINE – LINE(X1,Y1)-(X2,Y2), C
4. CIRCLE – CIRCLE(X,Y),R,C,SA,EA
5. PAINT – PAINT(X,Y),C
6. SOUND – SOUND f,d

**D . Write the statement used for the following purposes.**

1. This statement is used for medium-resolution graphics mode – SCREEN 1
2. This statement is used for high-resolution graphics mode – SCREEN 2
3. This statement is used for higher resolution – SCREEN 12
4. This statement is used to return to the default text mode – SCREEN 0
5. This statement is most frequently used as it supports 256 colors – SCREEN 13

**Extras**

➤ **Tick(✓) the correct answers.**

1. Which of the following is one of the small dots that make up an image on a screen?

- a. pixel                      b. resolution                      c. coordinates                      c. none of these

2. Which of the following is sharpness of an image measured in pixels per inch(ppi)?

- a. pixel                      b. resolution                      c. coordinates                      c. none of these

3. Which of the following is pair of numbers used to indicate the position of a point in 2-dimensional system?

- a. pixel                      b. resolution                      c. coordinates                      c. none of these

4. Which of the following is used to produce a beep sound?

- a. BEEP                      b. PAINT                      c. LINE                      d. None of these

5. Which of the following is used to fill an area with a specified color?

a. BEEP b. PAINT

c. LINE

d. None of these

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