

a. What is QBASIC ?

↳ QBASIC is one of the easiest high level programming languages which was developed by Professors John Kemeny and Thomas Kurtz.

b. Feature of QBASIC

- a. Easy to learn and understand.
- b. Supports structured programming
- c. Allows us to write and run programs immediately.

# Coding with DD

# Coding with DD

## C. Elements of QBASIC Programming

a. QBASIC character set

b. Variable and names

c. Constant

d. Operators and expression

e. Keywords (Reserved words)

a. Character Set

Character set is a set of valid characters that a language can recognize.

• Alphabets : A to Z (small & capital letters)

• Numbers : 0 to 9

• Special characters : ; , = - / \* ^ ( ) %

# Coding with DD

## b. Variable

**Variable** are the storage locations in the computer's memory.



### Numeric variable

### String variable

#### a. Numeric variable

The **numeric variable** has a number as its value.

Ex: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

#### b. String variable

The **string variable** has a string of characters or alphanumeric as its value.

Ex: A\$, B\$, C\$, D\$, E\$, F\$, G\$, H\$

A\$, B\$, C\$, D\$, E\$, F\$, G\$, H\$

## c. Constant

# Coding with DD

Constant is a data item whose value does not change during the execution of a program.

↓  
Numeric constant

String constant

### a. Numeric constant

Numeric constant is a sequence of positive or negative numbers on which mathematical operations can be performed.

Ex:

52, -30, +19

### b. String constant

String constant is a sequence of characters which may include numbers, letters and certain special characters enclosed in quotation marks.

Ex:

"Dipesh", "apple",

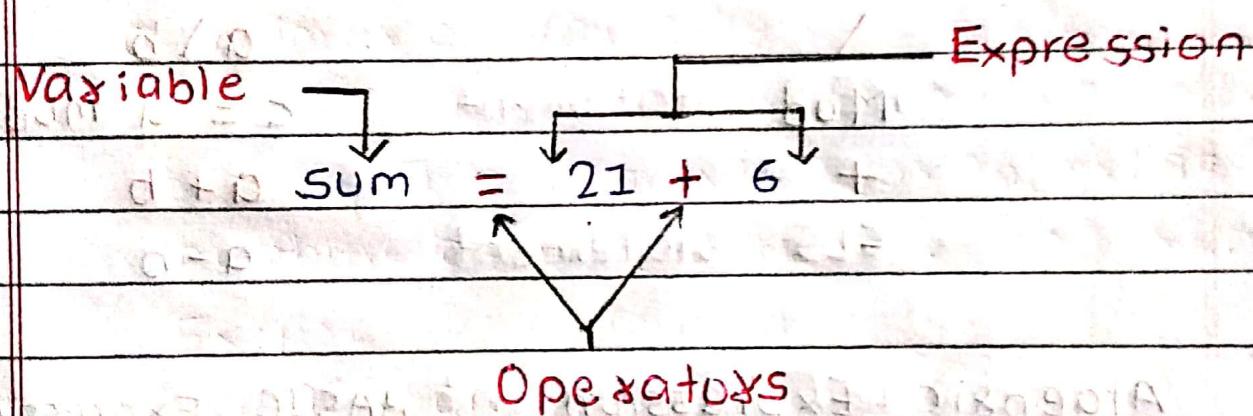
# Coding with DD

Date \_\_\_\_\_ Page \_\_\_\_\_

## d. Operators and Expression

**Operators** are the symbols representing the operations they perform.

**Expression** is referred as the combination of an operators and its operands.



Types :

a. Arithmetic Operators

b. Relational Operators

c. Logical Operators

d. Concatenation Operators

# Coding with DD

## ① Arithmetic Operators

### Example

Arithmetic Operators      Example

$$a^r + b^s \quad a^2 + b^2$$

addition of two numbers

subtraction of two numbers

$$a^b \quad a^b$$

multiplication of two numbers

$$a \setminus b \quad a \setminus b$$

$$c = a \mod b$$

$$a + b$$

$$a - b$$

Note

### Algebraic Expression

$$5a + 6b$$

$$a^2 + b^2$$

$$2(l+b)$$

$$(3a - 4b)/c$$

$$4x^2 + 3$$

$$(2a)*b$$

### BASIC Expression

$$5*a + 6*b$$

$$a^2 + b^2$$

$$2*(l+b)$$

$$(3*a - 4*b)/c$$

$$4*x^2 + 3$$

$$(2*a)*b$$

# Coding with DD

Date \_\_\_\_\_

Page \_\_\_\_\_

## ② Relational operators

<u>Operator</u>	<u>Example</u>
=	$A = B$
<	$A < B$
>	$A > B$
$\leq$	$A \leq B$
$\geq$	$A \geq B$
$\neq$	$A \neq B$

## ③ Logical operators

<u>Operator</u>	<u>Example</u>
AND	$A > B \text{ AND } A > C$
OR	$A > B \text{ OR } A > C$
NOT	$A \neq B$

## ④ Concatenation operators

$B\$ = "Cake"$

$A\$ = B\$ + "is" + "sweet"$

Output:

concatenation operators

Cake is sweet

# Coding with DD

## e. Keywords (Reserved words)

Syntax

Syntax

Ex:

$\text{CLS}, \text{PRINT}, \text{END} =$

$A > A$

$B < A$

## D. QBASIC Statements

REM

$A > A$

→ REM Statement

→ CLS Statement

→ LET Statement

→ INPUT Statement

→ Read.. DATA Statements

→ PRINT Statement

→ END Statement

# Coding with DD

Date \_\_\_\_\_ Page \_\_\_\_\_

## a) REM Statement

It is used to explain what a program does and what specific lines of code do.

Ex: REM This program calculate area

REM "This program calculate area"

## b) CLS Statement

It is used to get the fresh screen and clear the left over previous program.

Ex: CLS

CLS

## c) LET Statement

It is used to assign the value of an expression to a variable.

Ex:

LET a=5

LET a=5

a=5

a=5

## d) INPUT Statement

It is used to accept the value of any variable from user.

Ex: CLS

INPUT "Enter length"; l

INPUT "Enter breadth"; b

$$\text{Area} = l \times b$$

PRINT "Area is"; Area

END

## e) READ. DATA Statement

It is used to read values from DATA statement and assign to variables.

Ex: READ a,b

DATA 5,6

$$a = 5$$

$$b = 6$$

# Coding with DD

# Coding with DD

Date \_\_\_\_\_ Page \_\_\_\_\_

## f) PRINT Statement

It is used to display data on the screen.

Ex:

PRINT "My name is Dipesh"

## g) END Statement

It is used to denote the end of the program.

Ex:

PRINT

END

END

Demystify Variables

Variables are used to store data.

to generate

# Coding with DD

## Control Statement

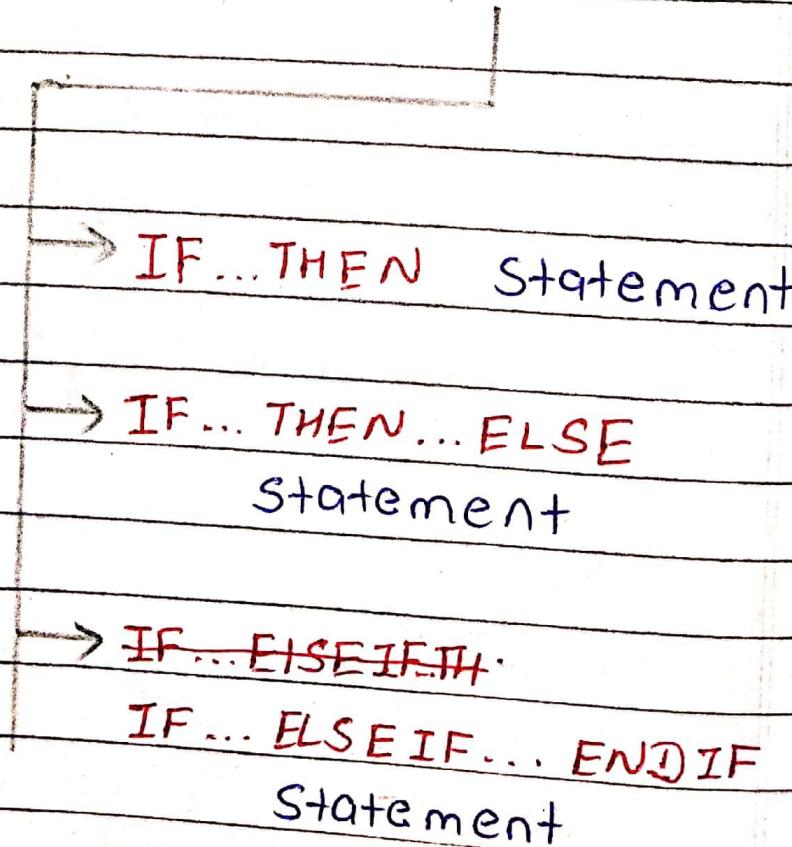
Branching Statement

Unconditional

Conditional

Goto Statement

IF...THEN Statement



# Coding with DD

a) GOTO Statement

Ex:

~~X = 1~~

~~top: IF X < 0 THEN~~

~~y = X \* X END IF PRINT~~

~~PRINT y END IF~~

~~X = X + 1 END IF~~

~~GOTO top END IF~~

~~END END IF~~

b) IF...THEN Statement

Ex:

CLS

INPUT a

a = 5

a = -2

IF a > 0 THEN PRINT "Greater than  
0"

END

c) IF...THEN...ELSE Statement

Ex:

CLS

INPUT a

IF a > 1 THEN PRINT "Number is  
greater than 1"

ELSE PRINT "Number is less than 1"  
.END

# Coding with DD

d) IF.. ELSE IF .. ENDIF Statement (10)

Ex:

CLS

INPUT a

IF a > 18 THEN

PRINT "He can drive"

ELSEIF a < 18 THEN

PRINT "He can't drive"

ELSEIF a = 18 THEN

PRINT "Visit driving center"

ELSE

PRINT "Something error"

ENDIF

END

S = 0

DO WHILE

END

20

DO

LOOP

END

# Coding with DD

## Looping Statement

FOR...NEXT      WHILE...WEND      DO...LOOP

Statement

Statement

Statement

Ex:

CLS :  $i = 1$

FOR  $i = 1$  TO  $10$

PRINT  $i$

NEXT

END

CLS :  $i = 1$

FOR  $i = 1$  TO  $10$

PRINT  $i$

NEXT

END

$i = i + 1$

$i > 10$

IF

THEN

END IF

END FOR

END

CLS

DO

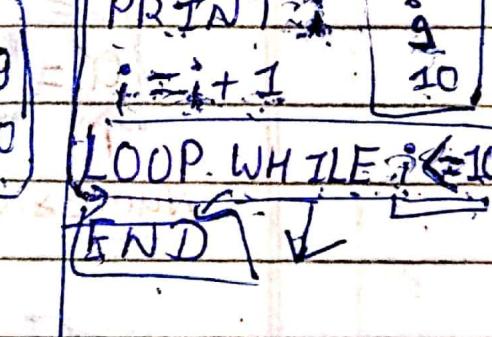
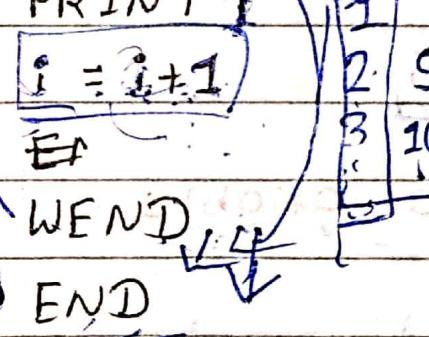
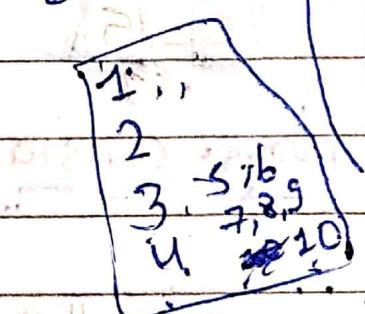
PRINT  $i$

$i = i + 1$

LOOP WHILE  $i <= 10$

END

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  
10.



This program will print (1 to 10)

# Coding with DD

## Variable

1. It is the storage locations in the computer's memory.

2. Variables are specially written in letters or symbols.

3. Example:

$$a = 5$$

Numeric variable

$$a\$ = "Dipesh"$$

String variable

## Constant

1. It is a data item whose value does not change during the execution of a program.

2. Constants are usually written in numbers.

3. Example:

$$a = 5$$

Numeric Constant

$$a\$ = "Dipesh"$$

String constant