Contents

[***variable*** 1](#_Toc126785481)

[***constraint***- 1](#_Toc126785482)

[***Data types*** 1](#_Toc126785483)

[1. Numeric 1](#_Toc126785484)

[2. Character 1](#_Toc126785485)

[3 String 1](#_Toc126785486)

[4. Logical data types : 1](#_Toc126785487)

[***Data sets:*** 1](#_Toc126785488)

[***operators and operands*** 1](#_Toc126785489)

[operators : -1. mathematical operators 1](#_Toc126785490)

[2. Relational Operators 2](#_Toc126785491)

[3. Logical Operators 2](#_Toc126785492)

[AND 2](#_Toc126785493)

[OR 2](#_Toc126785494)

[NOT 2](#_Toc126785495)

[***Functions*** 3](#_Toc126785496)

[Problem -- Add A And B 3](#_Toc126785497)

[Example : function square 3](#_Toc126785498)

[***PseudoCode ---- >*** 3](#_Toc126785499)

[Example 1 3](#_Toc126785500)

[Example 2 4](#_Toc126785501)

[***If-Else ----->*** 4](#_Toc126785502)

[Pseudocode to calculate average of 3 nos 5](#_Toc126785503)

[To check which number is greater between 3 nos 5](#_Toc126785504)

[calculate no is divisible by 3 and 18 5](#_Toc126785505)

[***Loops ---- >*** 6](#_Toc126785506)

[For ---> 6](#_Toc126785507)

[While -----> 6](#_Toc126785508)

[***Do-While ---->*** 7](#_Toc126785509)

[***Array--*** 8](#_Toc126785510)

[***Flowchart--*** 8](#_Toc126785511)

***variable*** --- variable is something that can change value

***constraint***----- contraint is something that cannot change

# ***Data types***

## 1. Numeric

INtegers : - 1,2,10,-5,-5

Real Numbers : - 5.0, 1.0, 3.0 ,5.34, -9.54

2. Character : a single charater enclose by ' '

'a' , 'd', 'd'

'df' , 'sd' , 'aw' - not allowed in character

3 String : one or more than one character enclosed b/w " "

"asas" , "assffd"

"1212"

4. Logical data types : --- true and false both are logical dta types

***Data sets:*** - - sybols that aloow for the data types.. we can call it range for a specific data type

integers: - +1 - infininty,0 ,-1 to Infinitty

Real nos - +1.0 to infinity ,0.0, -1.0 to infinity

character - a to z, 0 to 9 ,special symbol

string - anything that is combination of all alphabets

logical - true or false

# ***operators and operands***

operators : -1. mathematical operators ( for all operations 2 operand required)

+ aDDITION

- subrtraction

\* MULTIPLICATION

/ DIVISION --- > 4/2--> 2.0

\ INTEGER DIVISION - 5\3 --> 1

MOD - produce remainder

3 MOD 2 -- > 1

Power (^)

a ^ b a to power of b

5^2 25

2. Relational Operators ( produce logival outputs i. e true or false ) 2 operands are required

"= " ---> equal to

2=2 true

2= 3 = false

"<" -- > less than

">" --> greter than

"<=" --> less than or equal to ( =< this not allowed )

">=" --> greater than or equal to

"<>" --> not equal to

## 3. Logical Operators

### AND

x AND y --- if x and y are true theen it produce true otherwise it will be false

### OR

x OR y ----if x and y are false then itn produce false otherwise it always be true

### NOT

NOT x ---- if x is true then it produce false

# ***Functions***

functions are small set of instructions that are used to store some steps that needed to be executed to perform some specific task

### Problem -- Add A And B

Steps 1

Store both number somewhere

perform mathematical addtition

PROduce output

Example : function square:

number a, b

b= a^2

Output b;

# ***PseudoCode ---- >***

--> just some rough steps to perform a task

--> machines cannot understand pseudocode

--> it is for human to organise their solutions

Example 1 -- > Write a pseudocode to add two nos.

BEGIN

Read Number1

Read Number2

Result = ADD number1, number2

WRITE Result

END

Example 2 --- > Write a pseudocode to subtract,multiply,divide two nos

BEGIN

Read Number1

Read Number2

Result = SUBTRACT number1, number2

WRITE Result

END

BEGIN

Read Number1

Read Number2

Result = MULTIPLY number1, number2

WRITE Result

END

BEGIN

Read Number1

Read Number2

Result = DIVIDE number1, number2

WRITE Result

END

# ***If-Else ----->***

BEGIN

READ number

IF number MOD 2 = 0

WRITE "number is evem

Else

WRITE " number is odd"

ENDIF

END

### Pseudocode to calculate average of 3 nos

BEGIN

READ number1 , number2 , number3

SET sum number1 + number2 + number3

SET avg sum/3

WRITE avg

END

### To check which number is greater between 3 nos

BEGIN

READ number1 , number2 , number3

IF number1>number2 AND IF number1>number3

Write number1 is greater

Else

IF number2>number1 AND IF number2>number3

Write number2 is greater

Else

Write number3 is greater

END

### calculate no is divisible by 3 and 18

BEGIN

READ number

IF number MOD 3= 0

IF number MOF 18 = 0

Write " number is divisible by 3 and 18 both"

Else

Write " number is divisible by 3 but not by 18 "

Else

If number mod 18 = 0

Write " number is divisicle by 18 but not by 3"

Else

Write " number is not divisible by both"

END

# ***Loops ---- >***

## For --->

BEGIN

CREATE num

FOR num = 1 to 8

Write "hello SI"

END

BEGIN

CREATE number

FOR NUMBER = 1 TO 50000

IF NUMBER MOD 2 =1

WRITE NUMBER

ENDIF

END

BEGIN

create number

FOR number = 1 to 3

IF NUMBER=1

WRITE "\*"

IF NUMBER=2

WRITE "\*\*"

IF NUMBER = 3

WRITE "\*\*\*"

GO TO NEXT LINE

END

## While ----->

If we already know the numbe of iteration in advance then we will use for loop

but

if we dont know the number of iteration in advance the we go for while loop.

BEGIN                                                   BEGIN

CREATE number                                       create num=1,num=100

FOR NUMBER = 1 TO 100                                        while num <=100

WRITE NUMBER                                                 WRITE num

SET number number+5                                          SET num num+5

END END

BEGIN

    create num,i

    SET NUM 3 , i=2

    WHILE n<=200

        Write num

        num NUM\*3

        i=i+1

END

3,6,9,12,15,18,21

BEGIN

    CREATE NUM

    SET NUM=1

    WHILE NUM<=10

        wRITE " SUDHANSHU"

    SET  NUM NUM+1 {CONTROL WILL NEVER COME ON THIS DUE TO WHILE LOOPING RUNNING}

END             {THIS RESULT IN INFINITE LOOP}

# ***Do-While ---->***

DO-WHILE run at least one time either condition is satisfied or not

X=21

While x<=20

Write”hi”

Not runnn

X=21

DO

Write “hi”

While x<=20

1 time run

# ***Array--***

Array are used to store more than one item of same type

Integer=2

Char=’a’

Real nos= 2.0

Arr = {2,3,4}

# ***Flowchart--***

It is a pictorial representation of a pseudocode / code

BEGIN AND END WITH ELLIPSE ONLY

READ AND WRITE IN RECTANGULAR SHAPE

LOGIC WILL BE IN ONLY IN DIAMOND SHAPE

