Flowcharts and Algorithms:

1. **Arithmetic**

Add two numbers:

Algorithm

1 Start the program

2 Declare 3 integer variables namely n1, n2, sum

3 Ask the user to input 2 integers n1, n2

4 create a function called ‘ADD’ and define the function with the logic n1+n2

5 call the function ADD and pass the variables n1, n2 and store the result in the variable sum

6 display the message ‘the sum of n1 and n2 is equals to sum’

7 End the program

start

Declare 3 integer variables n1, n2 and sum

Input integers n1, n2

Create a function ADD(n1,n2) and define it with logic n1+n2

sum= ADD(n1, n2)

The sum of[n1] and [n2] is sum

End

Multiply two numbers:

Algorithm

1 Start the program

2 Declare 3 integer variables namely p1, p2, product

3 Ask the user to input 2 integers p1, p2

4 create a function called ‘PRODUCT’ and define the function with the logic p1\*p2

5 call the function PRODUCT and pass the variables p1, p2 and store the result in the variable product.

6 display the message ‘the product of p1 and p2 is equals to product’

7 End the program

Start

Declare 3 integer variables p1, p2 and product

Input integer p1 and p2

Make a function called PRODUCT(p1, p2) and define it with the logic p1\*p2

product= PRODUCT(p1,p2)

The product of [p1] and [p2] is [product]

End

1. **Decision**

Simple if-else loop

Algorithm

1 Start the program

2 Declare a character variable ch

3 Ask user to input any character between a to z in lower case

4 If the character is ‘y’ display ‘YES’ else display ‘NO’

5 End the program

Start

Input a character from a to z in lower case

Declare character variable ch

No

False condition:

ch== y

Yes

True condition:

End

if-elseif-else loop

Algorithm

1 Started the program

2 Declare a character variable ch

3 Ask user to input any character between a to z in

lower case

4 if the character is ‘a’ display ‘Vowel’

5 else if the character is ‘e’ display ‘Vowel’

6 else if the character is ‘i’ display ‘Vowel’

7 else if the character is ‘o’ display ‘Vowel’

8 else if the character is ‘u’ display ‘Vowel’

9 else display ‘Consonants’

10 End the program

start

Declare a character ch

Input character between a to z

True:

a

ch==’a’

False:

e

ch==’e’

ch==’I’

i

ch==’o’

o

u

ch==’u’

Consonants

End

1. **Loops:**

Simple for loop:

Algorithm

1 Start the program

2 initialize the variable int i= 1

3 start the loop for (i from 1 to 5)

4 display the value of i for each iteration

5 exit the loop

6 end the program

start

int i= 1

I<=5

False:

True:

[i]

I++

end

While loop:

Algorithm

1 Start the program

2 initialize the variable int i

3 input i

4 use the condition statement to check if i<=5

5 while the condition is true display the value of i

6 increment i

7 if the condition is false display number is greater than 5

8 end the program

start

Initialize int i

Input an integer

False:

True:

end

Number greater than 5

I<=5

i

I++

END