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"1"

Page No.
Date / /

Q.no.1

Algorithm is the stepwise stepwise procedure for solving problem or task. It is also called the list of instructions, most often used for problem solving. Pseudocode is the informal way of programming description that dosn't require any strict programming language syntax. Algorithm and pseudo code are differ interm of rawness, algorithm has strict rule such as steps should start with "start" and end with "End or Stop". whereas pseudo code a kind raw problem solving method. Algorithm can be easily understood whereas pseudo code can be little difficult to understand.

The algorithm and flowchart to find sum of the digits entered by user

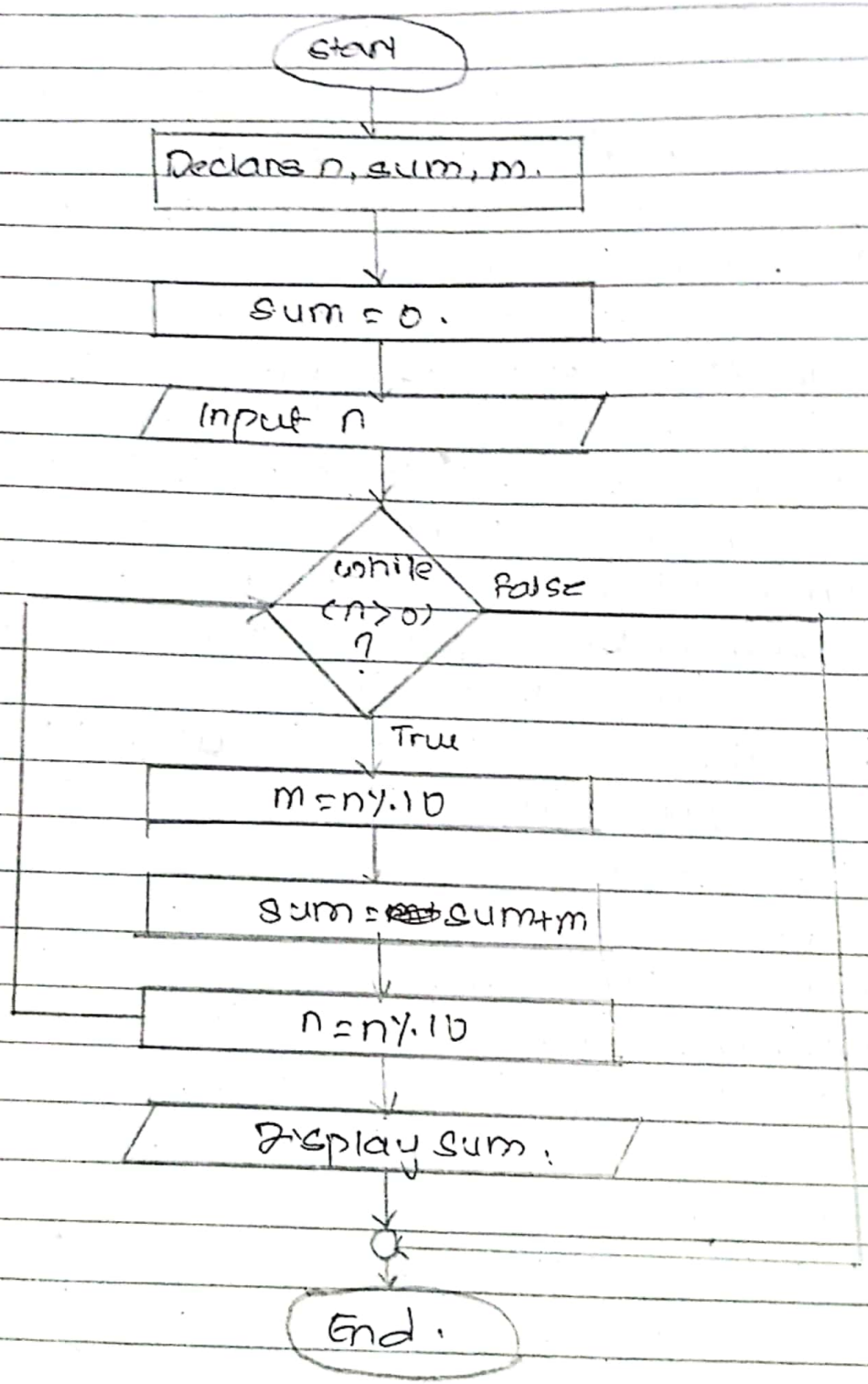
⇒ Algorithm

Step1 : Start
Step2 : Declare n, sum, m;
step 3 : Intialize sum = 0
Step 4 : Input n
step 5 : while (n > 0)
    5.1 m = n%.10
    5.2 sum = sum+m;
    5.3 n = n/10;
Step 6 : Display sum
Step 7 : Stop

Kaushal Kumar Bhattarai
ACE077BE015
"2"

Page No.
Date : / /

2. Flowchart :



Kaushal Kumar Bhattarai
ACE 077 BEI 018
"3"

a > b > c

Page No.
Date: / /

Q.no.2

The conditional operator is also known as ternary operator. The conditional operators are used for decision making process. It is represented by '?' and ':'. The syntax of conditional operator is given below.

condition 1 ? condition 2 : condition 3;

⇒ // c program to find middle number among // three numbers using conditional operator

```
#include<stdio.h>
int main()
{
    int a, b, c, mid, temp
    printf("Enter the numbers :");
    scanf("%d %d %d", &a, &b, &c);
    mid = (a>b) ? a : b;
    temp = (c < mid) ? c : temp;
    printf("The middle of three numbers is %d", temp);
    return 0;
}
```

⇒ // c program to find ~~using~~ middle number using // if else.

```
#include<stdio.h>
int main()
{
    int a, b, c, mid;
    printf("Enter the numbers:");
```

Kaushal Kumar Bhattarai
ACE077BEI018
"4"

```
scanf("%d%d%d", &a&b&c);
if (a>b && b>c
if (a > b > c)
{
   printf("%d is middle num", b);
}
else if (a>c>b)
{
   printf("%d is middle num", a0;
}
else
{
   printf("%d is middle num", a);
}
return 0;
}
```

Q.no.8

Break statement is a type of statement which break the loop iteration according to given condition. Flowchart is given below.

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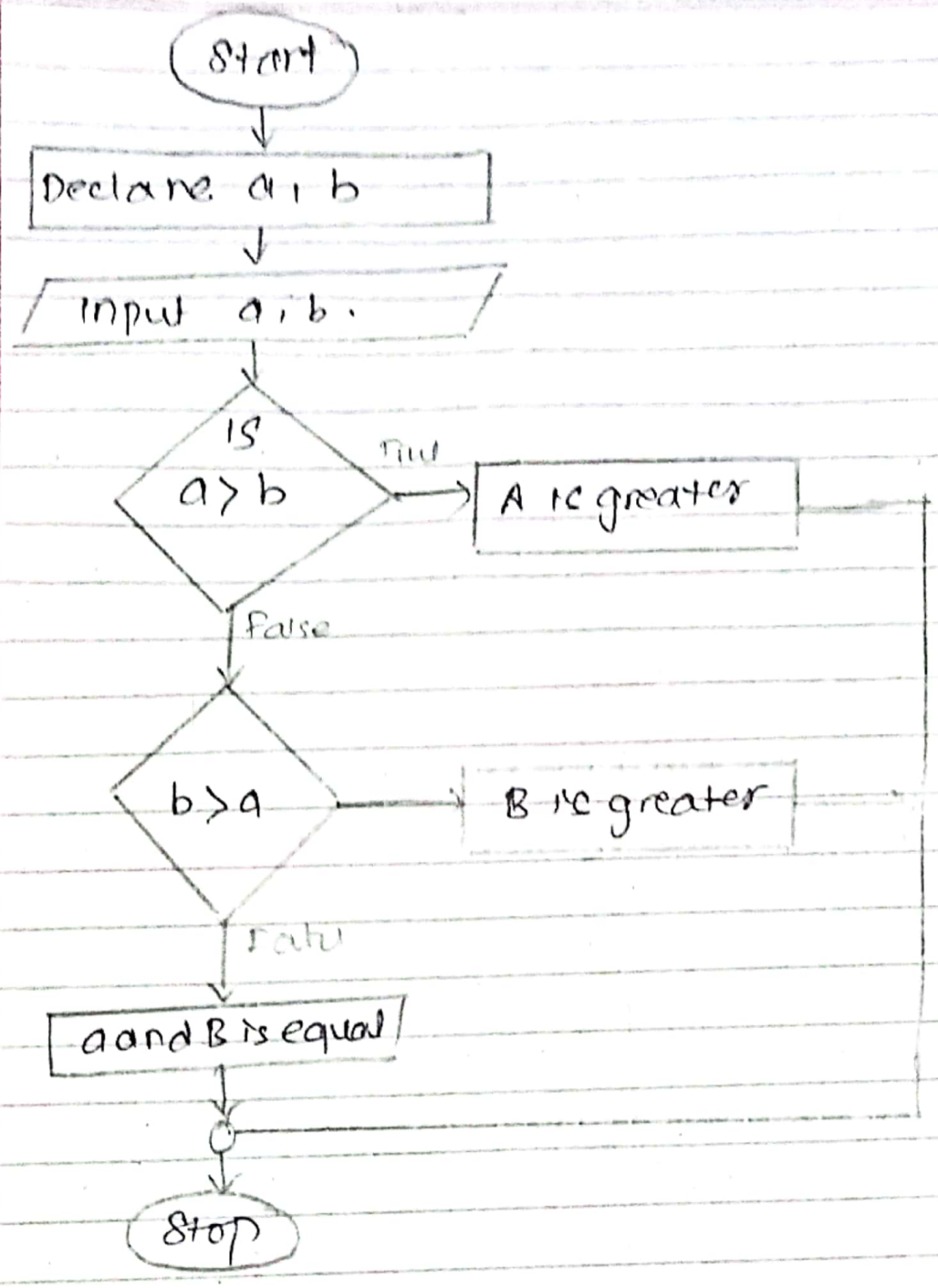
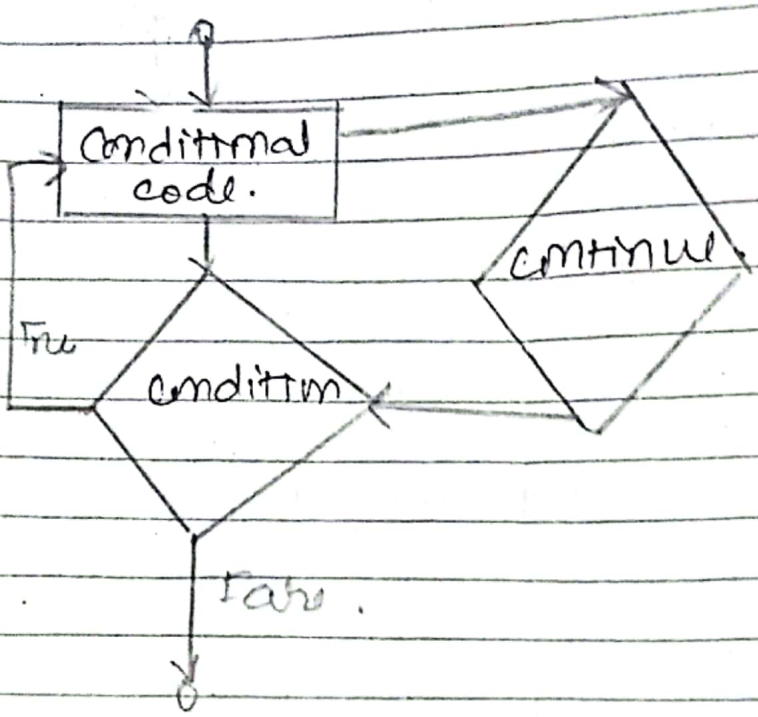
Assignment
"5"



→ continue statement in C is used to bring the loop statement to the beginning of the loop condition.

Kaushal Kumar Bhattarai
ACE077BEI018
B"6"

Page No.
Date: / /




```
// C program to find or calculate cosine series
#include <stdio.h>
int i, n;
float x, sum = 1, t = 1;
printf("Enter the value of n:");
scanf("%d", &n);
x = x * 3.14159 / 180;
for(i = 1; i <= n; i++)
{
    t = t * (-1) * x * x / (2 * i * (2 * i - 1));
    sum = sum + t;
}
printf("The value is %.4f", sum);
return 0;
}
```

Kaushal Kumar Bhattarai
ACE077BEI018
4th

Page No.
Date: / /

Q.no.7

a) The advantages of using pointer in C are as follow:
⇒ It makes the program simpler and reduce the length of program
⇒ It increase the execution speed.
⇒ While using strings it saves the memory space
⇒ It is helpful in using arrays, character and string.

Q.no.6

The difference between structure and array are:

Structure	array
Structure is a collection of variables of different datatypes.	An array is a collection of variable of same datatype
Its elements are accessed by their names	Its elements are accessed by their Index number
Syntax type array_name[size];	Syntax struct struct-name { type element; } variable;

Kaushal Kumar Bhattarai
A1E077BEI018
"B"

Page No.
Date : / /

Q.no.4

⇒ The difference between global and local functions are:

Global Function	Local Function
(1) It can be defined globally and access globally	It can be defined within some function can be accessed by only that function
(2) Scope is global i.e they can be used any where	Scope is local i.e they can be used where they are defined.

⇒ The difference between datatypes and variable.

Datatypes	Local variable
(1) It defines the type to the variable.	(1) It is nothing but storage area during execution time.
(2) Example int, char etc.	(2) We can define any.
(3) e.g int a; int is datatype	(3) e.g int b; b is a variable.

Kaushal Kumar Bhattarai
ACE077BEI018
"B"

Page No.
Date: / /

Ampersand Operator	'*' operator.
It is used to read the address of a given variable.	It is associate with pointer. It return the value of the pointer.
e.g ~~int *ptr~~ scanf("%d", &demo);	e.g int var=10, *ptr;

Q.no.5

Over flow Error	Under flow Error
It happens when there is no more room left to store data item	It happens when stack empty
It says out of space	It says ~~too~~ no space used.