Victoria University of Bangladesh
Final Assessment
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Name : MD Sujan ali

ID : 1119460091

Program : BBA

Batch : 46th

COURSE CODE : CSE-108

COURSE TITLE : Computer Fundamentals & Programming Techniques

Submitted to : Md shahin khan shanto

1 Course code :- C.S.E 108
Course title :- Computer Fundamentals and programming techniques

~~Ans: of the Q.N.~~

Ans: to the Q.N. (1)

(1)

(a)

$$(CAB0189.765)_{16}$$

$$= \underset{\downarrow}{A}\ \underset{\downarrow}{B}\ \underset{\downarrow}{0}\ \underset{\downarrow}{1}\ \underset{\downarrow}{8}\ \underset{\downarrow}{9}\ \underset{\downarrow}{7}\ \underset{\downarrow}{6}\ \underset{\downarrow}{5}$$

$$= 1010\ 1011\ 0000\ 0001\ 1000\ 1001\ 0111\ 0110\ 0101$$

$$= \frac{101}{5}\ \frac{010}{2}\ \frac{110}{6}\ \frac{000}{0}\ \frac{000}{0}\ \frac{116}{6}\ \frac{001}{1}\ \frac{001}{1}\ \frac{011}{3}$$

$$\frac{101}{5}\ \frac{100}{4}\ \frac{100}{4}$$

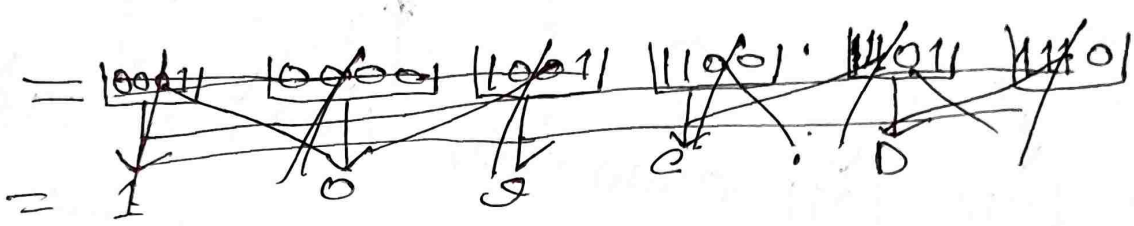
$$= (C526006\,11.3545)_8$$

(1)(b)

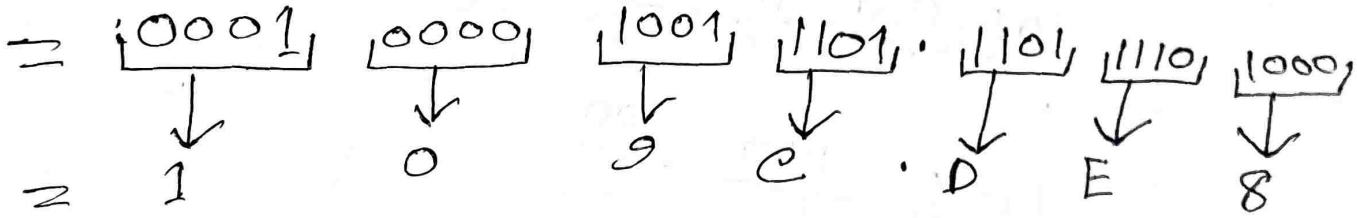
$(10234.675)_8$

$= 1\ 0\ 2\ 3\ 4\ .\ 6\ 7\ 5$

$= 001\ 000\ 010\ 011\ 100\ .\ 110\ 111\ 101$



$= 1\ 0\ 2\ 3\ .\ C\ D$



$= 1\ 0\ 9\ C\ .\ D\ E\ 8$

$= (109C.DE8)_{16}$

Ans:- to the Qn:- (2)

(2) (a)

```
int main()
{
int num1, num2, num3;
printf("Enter three different
        numbers: ");
scanf("%lf %lf %lf", and num1, and
        num2, and num3);

if(num1 >= num2 and and num1>=num3)
{
printf("\n%f is the largest number.\n",
        num1);
}
if(num2>=num1 and and num2>=num3)
{
printf("\n%f is the largest number.
        \n", num2);
```

```
}
if(num3 >= num1 and and num3 >= num2)
{
printf("\n%d is the largest number.\n",
        num3);
}
return 0;
}
```

2(b) Algorithm to find greatest number of three given numbers:

① Ask the user to enter three integer values.

② Read the three integer values in num1, num2, and num3 (integer variables).

③ check if num1 is greater than num2.

④ if true, then check if num1 is greater than num3.

▽ if true, then print (num1 is the greatest number.

▽ if false, then print (num3 is the greatest number.

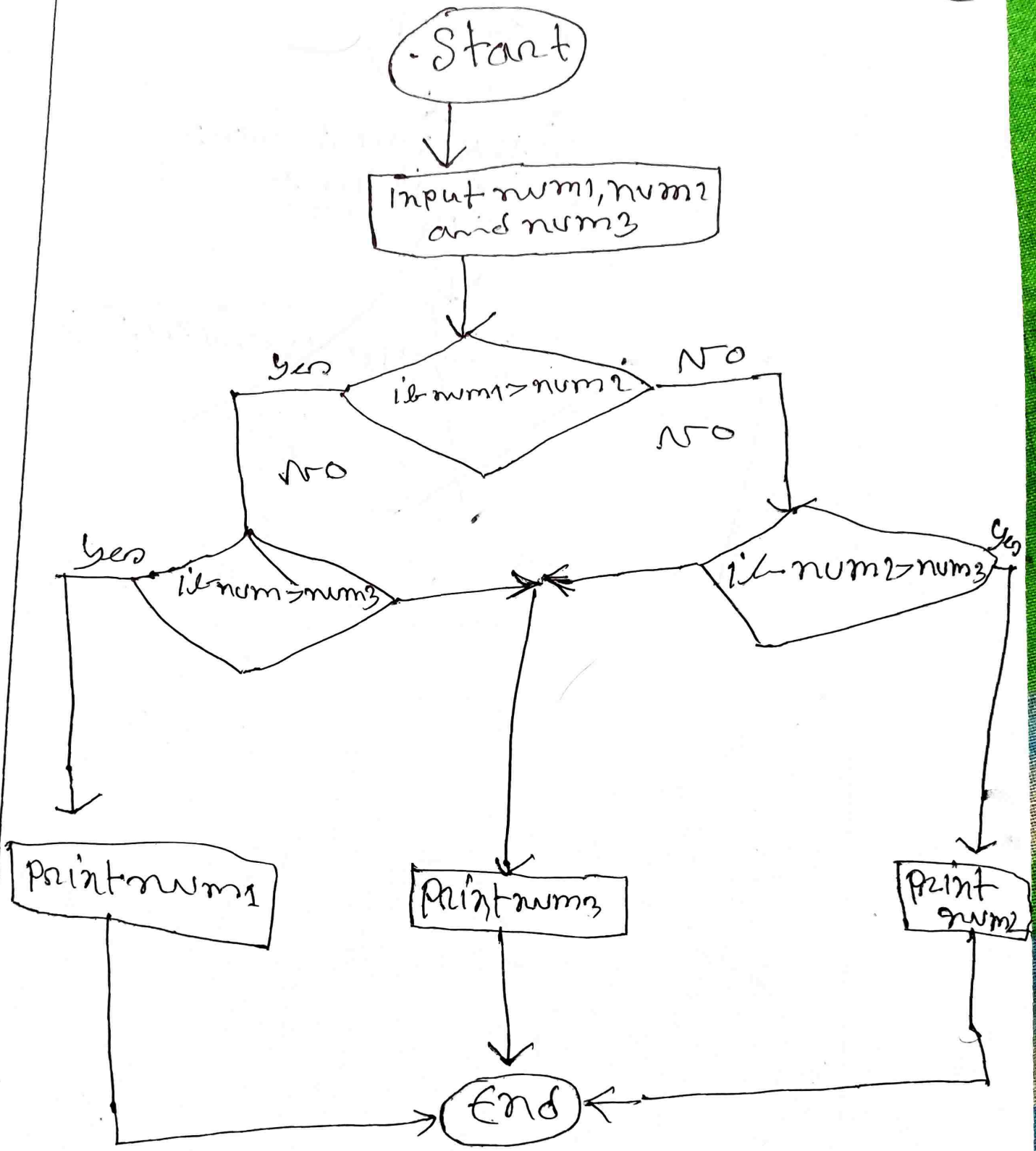
P.T.O

(5) If false, then check if num2 is greater than num3.

▽ If true, then print 'num2' as the greatest number.

▽ If false, then print 'num3' as the greatest number.

P.t.o


Start
Input num1, num2 and num3
if num1>num2
Yes
No
if num>num3
Yes
No
if num2>num3
Yes
No
Print num1
Print num3
Print num2
End

Ans to the q.n: (3)

3 (A)

(i) $(1001.1112)_2$

$= (1 \times 2^3) + (0 \times 2^2) + (0 \times 2^1) + (0 \times 2^0) +$
$(1 \times 2^{-1}) + (1 \times 2^{-2}) + (1 \times 2^{-3})$

$= (9.875)_{10}$

(ii) $(7601.153)_8$

$= (7 \times 8^3) + (6 \times 8^2) + (0 \times 8^1) + (1 \times 8^0) + (1 \times 8^{-1}) +$
$(5 \times 8^{-2}) + (3 \times 8^{-3})$

$= (3969.208984375)_{10}$

(b)

```
int main() {
float a, b, c, d, e, sum, avg;
Printf("please enter 5 numbers: ");
Scanf("%f %f %f %f %f", &a,
      &b, &c, &d, &e);
Ssum = a+b+c+d+e;
avg = sum/5;
Printf("\n the Average is: %f", avg);
return 0;
}
```

Ans: to the q.no (5)

(5)

(a) Algorithm and Flowchart.

Algorithm: In computer programming terms, and algorithm is a set of well defined instructions to solve a particular problem. It takes a set of input and produces a desired output.

Flowchart: A flowchart is a step by-step graphical representation of a process, system or algorithm needed to perform a task or complete a workflow.

P.t.o

(b) Difference Between Algorithm and Flowchart:

Flowchart	Algorithm
A flowchart is a graphical representation of the steps a program takes to process data.	An algorithm is a set of instruction for solving a well defined computation of problem
It is easy to design and also very user friendly.	It is comparatively difficult to create and also a bit challenging to be understood by a layman
It utilizes different types of geometrical shapes, symbols and patterns.	An algorithm does not include any sort of geometrical pattern.
It is easy debug the errors in flowcharts.	It is difficult to debug the errors in algorithm.

P.t.o

P.t.o

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In flowcharts, no rules are used.	In algorithms, predefined rules are used

(5) (c) ~~Define~~

(5) (c) Define Ram, Rom, cache and flash memory.

Ram: Random-access memory is a form of computer memory that can be read and changed in any order. typically used to store working data and machine code.

Rom: Read-only memory is a type of non volatile memory used in computers and other electronic devices. Like hard disk drive.

P.t.o

Cache: Cache memory is a small sized type of volatile computer memory that provides high speed data access to a processor and stores frequently used.

Flash Memory: Flash memory is an electronic non volatile computer memory storage medium that can be electrically erased and reprogrammed.

Example: pendrive.