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Daffodil International University

Department of Software Engineering
Faculty of Science & Information Technology
Final Examination, Spring 2024
Course Code: SE111; Course Title: Computer Fundamentals
Sections & Teachers: All

Time: 2:00 Hrs **Marks: 40**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	***a)***	Nila, a young girl with a passion for both coding and eating, has her coding schedule influenced by the rainy season. If it rains, she adjusts her coding time based on whether the duration of the rain is even or odd. If the duration of the rain is even, she codes for 'twice' the duration of the rain, and if it is odd, she codes for 'three times' the duration. However, if it doesn't rain at all or if the rain lasts more than 12 hours, she simply says 'coding geya tel lene' and 'sleeps'	**Mark15**	**CLO-3** *Level-3*

Sample input (hour of raining)	Sample output (hour of coding)
4	8 Explanation: Since the duration of raining is 4 (even), Nila codes for 2 times of the rain duration = (4*2) = 8
5	15 Explanation: Since the duration of raining is 5 (odd), Nila codes for 3 times of the rain duration = (5*3) = 15
0	Sleep Explanation: Since the duration of raining is 0, Nila goes to "sleep"
18	Sleep Explanation: Since the duration of raining is more than 12 hours, Nila goes to "sleep"

Now, **Solve** the above scenario by writing an algorithm (Pseudo code), drawing a Flowchart.

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b) **Examine** the following code and find the existing errors.

```
#include <studio.h>
int main() {
    int temperature = 30
    float threshold = 25;
    difference = temperature - threshold;
    /Temperature Alert/
    if difference > 0 {
        printf("Temperature is above threshold");
    } else {
        printf("Temperature is below threshold");
    }
    for (i = 0; i < 10; i++) {
        printf("Iteration: %d\n", i)
    }
    return 0;
}
```

Marks10

c)

EmpId	EmpName	EmpLicense	EmpPassport	DId
1001	Rina	Lc1103	Mk12098	1
1002	Mina	Lc1111	Mk23098	2
1003	Zara	Lc1231	Mk10896	3
1004	Dhara	Lc1321	Mk00987	4
1005	Sara	Lc1420	Mk12234	4

DId	Designation
1	Executive
2	Trainee
3	Accountant
4	Manager
5	IT officer

Relate at least four keys from the given table and explain them.

Marks 5

2. Suppose, you're a student tasked with designing a network infrastructure for a university campus. The university comprises multiple buildings spread across a large area. Each building houses classrooms, labs, and administrative offices. Professors need access to centralized resources like academic databases, while students require seamless connectivity for online learning platforms. The university also hosts conferences and events attracting participants from around the globe. Your task is to design the appropriate types of networks (LAN, MAN, WAN, PAN) to ensure efficient communication within classrooms, between buildings, across the campus, and globally for both everyday operations and special events.

Analyze the network category for the described scenario and elucidate it.

Marks10 | CLO-4 *Level-4*