Class Test

[SOA Deemed to be University, ITER]
Subject : PPWC (CSE-3544)
Date : 03/10/2024   Total : 15 Marks   Time: 1hr.

Q1.

A. A teacher wants to calculate the highest and lowest grade of their students. The program should allow the teacher to enter grades one by one, and once they enter -1, the program should calculate and display the highest and lowest grades. If no grades were entered (only -1), inform the teacher.

>   **Ex:**   Enter grades one by one (enter -1 to finish): 70 65 80 -1
>   The highest grade is: 80
>   The lowest grade is: 65

B. What will be the output of this program and explain?

```c
#include <stdio.h>
int main() {
    int a = 8, b = 10;
    printf("%d %d", a ^ b, a & b);
    return 0;
}
```

```c
#include <stdio.h>
int main() {
    int x = 4, y = 6;
    if (x++ == y--) {
        printf("%d", x + y);
    } else {
        printf("%d", x * y);
    }
    return 0;
}
```

C. What will be the output of this program and explain?

```c
#include <stdio.h>
int main() {
    int i = 1;
    do {
        printf("%d ", (i % 3 == 0) ? i * i : i + 1);
        i++;
    } while (i <= 6);
    return 0;
}
```

```c
#include <stdio.h>
int main() {
    int a = 5;
    for (int i = 0; i < 3; i++) {
        a -= (i + 1);
        printf("%d ", a);
    }
    return 0;
}
```

Q2.

A. Develop a C program that simulates the functionality of a banking system, allowing users to perform the following actions: 1.Check their account balance, 2.Transfer funds to another account, 3. Withdraw cash. Utilize a loop to enable users to repeatedly select options until they choose to log out of the system.

```
Banking System Menu:
1. Check Account Balance
2. Transfer Funds to Another Account
3. Withdraw Cash
4. Log Out
Enter your choice: 1
Your current balance is: 1000.00
```

```
Enter your choice: 2
Enter the amount to transfer: 200
Successfully transferred 200.00 to the other account.
Your new balance is: 800.00
Other account's new balance is: 700.00
```

```
Enter your choice: 3
Enter the amount to withdraw: 150
Successfully withdrew 150.00. Your new balance is: 650.00
```

B. What will be the output of this program and explain?

```c
#include <stdio.h>
int main() {
    int i = 0;
    while (i < 10) {
        if (i % 3 == 0) {
            i += 2;
            continue;
        }
        printf("%d ", i);
        i++;
    }
    return 0;
}
```

```c
int main() {
    int i = 0, sum = 0;
    while (i < 10) {
        if (i % 2 == 0) {
            i++;
            continue;
        }
        if (i == 7) {
            break;
        }
        sum += i;
        i++;
    }
    printf("Sum: %d\n", sum);
}
```

C. Write a C program that takes an input number and identifies the integer whose digital root equals that number. For example, the digital root of 38 (3 + 8 = 11; 1 + 1 = 2) would return 2. (Ex: Input : 38 Output : 2 and Input : 1 Output : 1)