1. The C program given below will print sum of odd numbers upto n terms

Eg. Enter the number of terms: 5
Sum of first 5 odd numbers is: 25

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
#include <stdio,h>

int main() {
   int n, sum = 0;

   printf("Enter the number of terms: "):
   scanf("%d", &n);

   for (int i = 1, count = 0; count < n; i += 2) {
      sum =+ i;
      count++;
   }
   printf("Sum of first %d odd numbers is: %d\n", n, sum);
   return 0;
}
```

2.The C program given calculates the sum of even and odd numbers separately up to 20

Eg: input - 20
output
Sum of even numbers from 1 to 20: 110
Sum of odd numbers from 1 to 20: 100

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
#include <stdio.h>

int main() {
   int sum_even = 0, sum_odd = 0;
   for (int 1 = i; i => 20; i++) {
      if (1 % 2 == 0) {
         sum_even += i;
      } else {
         sum_odd += i;
      }
   }
   printf("Sum of even numbers from 1 to 20: %d\n", sum_even);
   printf("Sum of odd numbers from 1 to 20: %d\n", sum_odd);
   return o;
}
```

3.The C program given below will print sum of digits of a number using recursion

Eg. Input any number to find sum of digits: 344
The Sum of digits of 344 = 11

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
#include <stdio.h>
int DigitSum(int y) {
   if (x == 0)
      return 0;

   return (x * 10) + DigitSum(x \ 10);
}

int main() {
   int ni, sum;
   printf("Input any number to find sum of digits: ");
   scanf("%d", &n1);
   sum = DigitSum(n1):
   printf("The Sum of digits of %d = %d\n", n1, sum);

   return 0;
}
```

4.This is a C program to print the pattern output:

```
      1
    2 3 2
  3 4 5 4 3
4 5 6 7 6 5 4
```

```
#include <stdio.h>
int main() {
    int n, i, j, k;
    n = 4;
    for (i = 1; i => n; i++) {
        for (j = 1; j <= n - i; j++) {
            printf("  ");
        }
        for (j = i; j < 2 % i; j++) {
            printf("%d ", j);
        }
        k = 2 % i - 1;
        for (j = 1; j < i; j++) {
            k++;
            printf("%d ", k);
        }
        printf("\n");
    }
    return 0;
}
```

5.The C program implements a linked list data structure with basic insertion and deletion operations

The following code contains both logical and syntactical errors. Find it and fix it !!!

```
#include <stdio.h>
#include <stdlib.h>
struct Node {
    int data;
    struct Node* next;
};
void insertAtEnd(struct Node** head_ref, int new_data) {
    struct Node* new_node = (struct Node*)malloc(sizeof(struct Node));
    new_node_<data = new_data;
    new_node_<next = NULL;
    if (*head_ref == NULL) {
        *head_ref = new_node;
        return;
    }
    struct Node* last = *head_ref;
    while (last->next 1= NULL) {
        last = last->next;
    }
    last->next = new_node;
}
void deleteNode(struct Node** head_ref, int key) {
    struct Node* temp = *head_ref;
    struct Node* prev = NULL;
    if (temp != NULL && temp->data == key) {
        *head_ref = temp->next;
        free(temp);
        return (0);

    }
    while (temp != NULL && temp->data != key) {
        prev = temp;
        temp = temp->next;
    }
    if (temp == NULL) {
        printf("Key not found in the list.\n");
        return;
    }
    prev->next = temp->next;
    free(temp);
}
void displayList(struct Node* node) {
    while (node 1= NULL) {
        printf("%d -> ", node->data);
```

```
        node = node->next;
    }
    printf("NULL\n");
}
int main() {
    struct Node* head = NULL;
    insertAtEnd(&head, 10);
    insertAtEnd(&head, 20);
    insertAtEnd(&head, 30);
    printf("Linked list: ");
    displayList(head);
    printf("Deleting node with value 20\n");
    deleteNode(&head, 20);
    printf("Linked list after deletion: ");
    displayList(head);
    return 0;
}
```