```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
int main()
{ //add from here
  char ch;
 char s[100];
 char sen[100];
scanf("%c", &ch);
scanf("%s", s); scanf("\n");
scanf("%[^\n]%*sen", sen);
printf("%c\n", ch);
printf("%s\n", s);
printf("%s\n", sen);
 //till here
   return 0;
}
```

```
//erase everything and write below code

// Write Your Code Here
#include<stdio.h>

int main() {
   int n;

   scanf("%d", &n);

   printf((n==1)?"one": (n==2)?"two": (n==3)?"three": (n==4)?"four": (n==5)?"five": (n==6)?"si
x": (n==7)?"seven": (n==8)?"eight": (n==9)?"nine":"Greater than 9");

   return 0;
}
```

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
// full funciton is written by you
int max (int n, int k){
   int and=0, or=0, xor=0;
    for (int i=1; i<n; i++) {
       for (int j=i+1; j<=n; j++) {
            int a = i&j, b = i | j, c = i^j;
            if (a < k & and < a)
               and = a;
            if (b < k && or < b) {
               or = b;
            if (c < k && xor < c) {
               xor = c;
            }
       }
   return printf("%d\n%d\n%d", and, or, xor);
// till here
int main() {
    int n, k;
    scanf("%d %d", &n, &k);
   \max(n,k); //only this line is to be added here
   return 0;
}
```

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
int main()
   //add from here
    int a,b;
    scanf("%d %d",&a,&b);
    int sum = a+b;
    int diff = a-b;
    float a1,b1;
    scanf("%f %f",&a1,&b1);
    float sum1= a1+b1;
    //sum1=round(sum1*100)/100;
    float diff1 = a1-b1;
    //diff1=round(diff1*100)/100;
    printf("%d %d\n", sum, diff);
    printf("%.1f %.1f \n",sum1,diff1);
    //till here
   return 0;
}
```

```
int numberOfMatches(int n) {
   int matches = 0;
   while (n > 1) {
       if (n % 2 == 0) {
           matches += n / 2;
           n /= 2;
       } else {
           matches += (n - 1) / 2;
           n = (n - 1) / 2 + 1;
   return matches;
}
```

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
int main()
{ char *s[]={"null", "one", "two", "three", "four", "five", "six", "seven", "eight", "nine"};
    int a, b;
    scanf("%d\n%d", &a, &b);
        while(a<=b)
          if((a \le 9) \& (a \ge 1))
          {printf("%s\n",s[a]);}
          else
           {
              if(a%2==0)
              {printf("even\n");}
              else {
              printf("odd\n");
          }
         a++;
    return 0;
}
```

```
#include <stdarg.h>
#include <stdio.h>
#include <stdlib.h>
#include <time.h>
#define MIN_ELEMENT 1
#define MAX_ELEMENT 1000000
//from here
int sum (int count,...) {
    va_list ptr;
    int sum=0;
    va_start(ptr, count);
    for(int i=0;i<count;i++)</pre>
       sum+=va_arg(ptr, int);
    }
           va_end(ptr);
    return sum;
}
int min(int count,...) {
    va_list ptr;
    va_start(ptr, count);
    int max=va_arg(ptr, int);
    for(int i=0;i<count;i++)</pre>
        int temp = va_arg(ptr, int);
        max = temp<max ? temp : max;</pre>
    return max;
int max(int count,...) {
va_list ptr;
    va_start(ptr, count);
    int min=va_arg(ptr, int);
    for(int i=0;i<count;i++)</pre>
        int temp = va_arg(ptr, int);
        min = temp>min ? temp : min;
    }
    return min;
//till here
int test_implementations_by_sending_three_elements() {
    srand(time(NULL));
    int elements[3];
    elements[0] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[1] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[2] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    fprintf(stderr, "Sending following three elements:\n");
    for (int i = 0; i < 3; i++) {
        fprintf(stderr, "%d\n", elements[i]);
    int elements_sum = sum(3, elements[0], elements[1], elements[2]);
    int minimum_element = min(3, elements[0], elements[1], elements[2]);
    int maximum_element = max(3, elements[0], elements[1], elements[2]);
    fprintf(stderr, "Your output is:\n");
    fprintf(stderr, "Elements sum is %d\n", elements_sum);
```

```
./TPEC/M3/variadic-function-c.c
```

```
2
```

```
fprintf(stderr, "Minimum element is %d\n", minimum_element);
    fprintf(stderr, "Maximum element is %d\n\n", maximum_element);
    int expected_elements_sum = 0;
    for (int i = 0; i < 3; i++) {
        if (elements[i] < minimum_element) {</pre>
            return 0;
        }
        if (elements[i] > maximum_element) {
            return 0;
        expected_elements_sum += elements[i];
    }
    return elements_sum == expected_elements_sum;
}
int test_implementations_by_sending_five_elements() {
    srand(time(NULL));
    int elements[5];
    elements[0] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[1] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[2] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[3] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[4] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    fprintf(stderr, "Sending following five elements:\n");
    for (int i = 0; i < 5; i++) {
        fprintf(stderr, "%d\n", elements[i]);
    int elements_sum = sum(5, elements[0], elements[1], elements[2], elements[3], elements[
    int minimum_element = min(5, elements[0], elements[1], elements[2], elements[3], elemen
    int maximum_element = max(5, elements[0], elements[1], elements[2], elements[3], elemen
ts[4]);
    fprintf(stderr, "Your output is:\n");
    fprintf(stderr, "Elements sum is %d\n", elements_sum);
    fprintf(stderr, "Minimum element is %d\n", minimum_element);
fprintf(stderr, "Maximum element is %d\n\n", maximum_element);
    int expected_elements_sum = 0;
    for (int i = 0; i < 5; i++) {
        if (elements[i] < minimum_element) {</pre>
             return 0;
        if (elements[i] > maximum_element) {
            return 0;
        expected_elements_sum += elements[i];
    }
    return elements_sum == expected_elements_sum;
}
int test_implementations_by_sending_ten_elements() {
    srand(time(NULL));
    int elements[10];
```

```
Tue Oct 22 12:33:45 2024
./TPEC/M3/variadic-function-c.c
    elements[0] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[1] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[2] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[3] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[4] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[5] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[6] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[7] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[8] = rand() % (MAX_ELEMENT - MIN_ELEMENT + 1) + MIN_ELEMENT;
    elements[9] = rand() % (MAX ELEMENT - MIN ELEMENT + 1) + MIN ELEMENT;
    fprintf(stderr, "Sending following ten elements:\n");
    for (int i = 0; i < 10; i++) {
        fprintf(stderr, "%d\n", elements[i]);
    int elements_sum = sum(10, elements[0], elements[1], elements[2], elements[3], elements
[4],
                           elements[5], elements[6], elements[7], elements[8], elements[9])
    int minimum_element = min(10, elements[0], elements[1], elements[2], elements[3], eleme
nts[4],
                           elements[5], elements[6], elements[7], elements[8], elements[9])
    int maximum_element = max(10, elements[0], elements[1], elements[2], elements[3], eleme
nts[4],
                           elements[5], elements[6], elements[7], elements[8], elements[9])
;
    fprintf(stderr, "Your output is:\n");
    fprintf(stderr, "Elements sum is %d\n", elements_sum);
    fprintf(stderr, "Minimum element is %d\n", minimum_element);
    fprintf(stderr, "Maximum element is %d\n\n", maximum_element);
    int expected_elements_sum = 0;
    for (int i = 0; i < 10; i++) {
        if (elements[i] < minimum_element) {</pre>
            return 0;
        }
        if (elements[i] > maximum_element) {
            return 0;
        }
        expected_elements_sum += elements[i];
    return elements_sum == expected_elements_sum;
}
int main ()
    int number_of_test_cases;
    scanf("%d", &number_of_test_cases);
    while (number_of_test_cases--) {
        if (test_implementations_by_sending_three_elements()) {
            printf("Correct Answer\n");
        } else {
            printf("Wrong Answer\n");
        if (test_implementations_by_sending_five_elements()) {
            printf("Correct Answer\n");
```

} else {

}

printf("Wrong Answer\n");

```
* Definition for singly-linked list.
* struct ListNode {
     int val;
      struct ListNode *next;
* };
*/
struct ListNode* addTwoNumbers(struct ListNode* 11, struct ListNode* 12) {
    //from here
   int carry = 0;
    struct ListNode head;
    struct ListNode* cur = &head;
    while (11 | | 12 | | carry) {
       int sum = carry;
        if (11) {
           sum += 11->val;
            11 = 11->next;
        }
        if (12) {
            sum += 12->val;
            12 = 12 - \text{next};
        carry = sum / 10;
        cur->next = malloc(sizeof(struct ListNode));
        cur = cur->next;
       cur->val = sum %= 10;
       cur->next = NULL;
    }
   return head.next;
}//till here
```

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
//Complete the following function.
int find_nth_term(int n, int a, int b, int c) {
 //from here
 switch (n) {
   case 1:
       return a;
   case 2:
       return b;
    case 3:
       return c;
    default:
       return find_nth_term(n - 1, a, b, c) + find_nth_term(n - 2, a, b, c) + find_nth_ter
m(n - 3, a, b, c);
}//till here
int main() {
    int n, a, b, c;
    scanf("%d %d %d %d", &n, &a, &b, &c);
    int ans = find_nth_term(n, a, b, c);
    printf("%d", ans);
    return 0;
}
```

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
//Complete the following function.
int marks_summation(int* marks, int number_of_students, char gender) {
  //Write your code here.
//from here
   int sum = 0;
   int i = (gender == 'g');
    while (i < number_of_students) {</pre>
       sum += marks[i];
       i += 2;
    return sum; //till here
}
int main() {
    int number_of_students;
    char gender;
    int sum;
    scanf("%d", &number_of_students);
    int *marks = (int *) malloc(number_of_students * sizeof (int));
    for (int student = 0; student < number_of_students; student++) {</pre>
        scanf("%d", (marks + student));
    scanf(" %c", &gender);
    sum = marks_summation(marks, number_of_students, gender);
    printf("%d", sum);
    free (marks);
    return 0;
}
```