Task1

```
#include <stdio.h>
   int source[] = {10, 20, 30, 40, 50, 60};
   int n=6;
   void shiftLeft(int source[], int k) {
   for (int j = 0; j < k; j++) {
      for (int i = 0; i < n - 1; i++) {
         source[i] = source[i + 1];
      } source[n - 1] = 0;
   }
}
int main() {
   shiftLeft(source, 3);
   printf("[");
   for (int i = 0; i < n; i++) {
      printf("%d ", source[i]);
   }
 printf("]");
   return 0;
}
```

Task2

```
#include <stdio.h>
   int source[] = {10, 20, 30, 40, 50, 60};
   int n=6;
   void shifRight(int source[], int k) {
   for (int j = 0; j < k; j++) {
      for (int i = n - 1; i > 0; i--) {
         source[i] = source[i - 1];
      } source[0] = 0;
   }
}
int main() {
   shifRight(source, 3);
   printf("[");
   for (int i = 0; i < n; i++) {
      printf("%d ", source[i]);
   }
 printf("]");
   return 0;
}
```

Task3

```
#include <stdio.h>
   int source[] = {10, 20, 30, 40, 50, 60};
   int n=6;
   void rotateLeft(int source[], int k) {
   for (int j = 0; j < k; j++) {
         int temp=source[0];
      for (int i = 0; i < n-1; i++) {
         source[i] = source[i + 1];
      } source[n-1] = temp;
   }
}
int main() {
   rotateLeft(source, 3);
   printf("[");
   for (int i = 0; i < n; i++) {
      printf("%d ", source[i]);
   }
 printf("]");
   return 0;
}
```

Task4

```
#include <stdio.h>
   int source[] = {10, 20, 30, 40, 50, 60};
   int n=6;
   void rotateRight(int source[], int k) {
   for (int j = 0; j < k; j++) {
         int temp=source[n-1];
      for (int i = n - 1; i > 0; i--) {
         source[i] = source[i - 1];
      } source[0] = temp;
   }
}
int main() {
   rotateRight(source, 3);
   printf("[");
   for (int i = 0; i < n; i++) {
      printf("%d ", source[i]);
   }
 printf("]");
   return 0;
}
```

Task5

```
#include <stdio.h>
   int source[] = {10, 20, 30, 40, 50, 0, 0};
   int size=7;
   void removeE(int source[], int size, int idx) {
   if (idx >= 0 && idx < size) {
      for (int i = idx; i < size - 1; i++) {
         source[i] = source[i + 1];
      }source[size - 1] = 0;
   }
}
int main() {
   removeE(source,5,2);

   printf("After removal: [ ");
   for (int i = 0; i < size; i++) {
      printf("%d ", source[i]);
   }printf("]");
   return 0;
}
```

Task6

```
#include <stdio.h>
   int source[] = {10, 2, 30, 2, 50, 2, 2, 0, 0};
   int size = 9;
   void removeAll(int source[], int size, int element) {
   int newSize = 0;
   for (int i = 0; i < size; i++) {
      if (source[i] != element) {
         source[newSize] = source[i];
         newSize++;
      }
   }
   for (int i = newSize; i < size; i++) {
      source[i] = 0;
   }
}
int main() {
   removeAll(source, 7, 2);
   printf("After removal: [ ");
   for (int i = 0; i < size; i++) {
      printf("%d ", source[i]);
   }
   printf("]");
   return 0;
}
```

Task7

```
#include <stdio.h>
#include <stdbool.h>
bool hasTwoElementsWithSameRepetition(int arr[], int size) {
    int countArray[100]={0};
    for (int i=0;i<size;i++) {
        countArray[arr[i]]++;
    }
    int repetitions[100] = {0};
    int maxRepetition = 0;
    for (int i=0;i<100;i++) {
        if (countArray[i] > 1) {
            repetitions[countArray[i]]++;
            maxRepetition=(countArray[i]>maxRepetition)?countArray[i]:maxRepetition;
        }
    }
    for (int i=0;i<100;i++) {
        if (repetitions[i]>=2) {
            return true;
        }
    }
    return false;
}
int main() {
    int arr1[] = {4, 5, 6, 6, 4, 3, 6, 4};
    bool result1 = hasTwoElementsWithSameRepetition(arr1, sizeof(arr1) / sizeof(arr1[0]));
    printf("Output 1: %s\n", result1 ? "True" : "False");
    int arr2[] = {3, 4, 6, 3, 4, 7, 4, 6, 8, 6, 6};
    bool result2 = hasTwoElementsWithSameRepetition(arr2, sizeof(arr2) / sizeof(arr2[0]));
    printf("Output 2: %s\n", result2 ? "True" : "False");
    return 0;
}
```