Coding Solution

```cpp
#include <iostream>
#include <vector>
#include <algorithm>

using namespace std;

// Q1: Find the first pair of repeating elements
pair<int, int> findFirstRepeatingPair(const vector<int>& arr) {
    vector<int> count(10000,-1); // Adjust size as needed based on input range
    for (size_t i = 0; i < arr.size(); ++i) {
        if (count[arr[i]] != -1) {
            return {count[arr[i]] + 1, i + 1}; //Return index +1 as per assumption
        }
        count[arr[i]] = i;
    }
    return {-1, -1}; // Not found
}

// Q2: Maximum sum of two elements closest to zero
int maxSumClosestToZero(const vector<int>& arr) {
    int n = arr.size();
    int minSum = INT_MAX;
    for (int i = 0; i < n; ++i) {
        for (int j = i + 1; j < n; ++j) {
            int sum = arr[i] + arr[j];
            if (abs(sum) < abs(minSum)) {
                minSum = sum;
            }
        }
    }
    return minSum;
}

// Q3: Find missing element in an Arithmetic Progression
int findMissingAPval(const vector<int>& arr) {
    if (arr.size() < 2) return -1; // Not enough elements to form AP
    int diff = arr[1] - arr[0];
    for (size_t i = 2; i < arr.size(); ++i) {
        if (arr[i] - arr[i - 1] != diff) {
            return arr[i - 1] + diff;
        }
    }
    return -1; // No missing element
```

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}

// Q4: Find first and last occurrences of an element
pair<int, int> findFirstLastOccurrence(const vector<int>& arr, int x) {
    int first = -1, last = -1;
    for (size_t i = 0; i < arr.size(); ++i) {
        if (arr[i] == x) {
            if (first == -1) first = i + 1; //index +1 as per assumption
            last = i + 1;
        }
    }
    return {first, last};
}

// Q5: Interpolation search
int interpolationSearch(const vector<int>& arr, int k) {
    int low = 0, high = arr.size() - 1;
    while (low <= high && k >= arr[low] && k <= arr[high]) {
        int pos = low + ((double)(high - low) / (arr[high] - arr[low])) * (k - arr[low]);
        if (arr[pos] == k) return pos + 1; //index +1 as per assumption
        else if (arr[pos] < k) low = pos + 1;
        else high = pos - 1;
    }
    return -1; // Not found
}


// Q6: Maximum length subarray (Binary Search approach -  requires further refinement
for efficiency)
int maxLengthSubarray(const vector<int>& arr) {
    int maxLength = 0;
    for (int i = 0; i < arr.size(); ++i) {
        for (int j = i; j < arr.size(); ++j) {
            if (arr[i] >= arr[j]) {
                maxLength = max(maxLength, j - i + 1);
            }
        }
    }
    return maxLength;
}


// Q7: Find index of string in array
int findStringIndex(const vector<string>& arr, const string& x) {
    for (size_t i = 0; i < arr.size(); ++i) {
        if (arr[i] == x) return i +1; //index +1 as per assumption
```

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    }
    return 0; // Not found
}

// Q8: Linear search
bool linearSearch(const vector<int>& arr, int x) {
    for (int element : arr) {
        if (element == x) return true;
    }
    return false;
}

int main() {
    // Example usage for Q1
    vector<int> arr1 = {3, 6, 12, -10, 3, 3, 6, 34, 0, -109, 98, 1};
    pair<int, int> result1 = findFirstRepeatingPair(arr1);
    cout << "Q1: First repeating pair: (" << result1.first << ", " << result1.second << ")" <<
endl;

    // Example usage for Q2
    vector<int> arr2 = {-5, -50, 56};
    int result2 = maxSumClosestToZero(arr2);
    cout << "Q2: Max sum closest to zero: " << result2 << endl;

    //Example Usage for other questions can be added similarly.

    return 0;
}
```

Remember to compile and run this code using a C++ compiler (like g++). You'll need to adapt and expand the `main` function to test the other functions (Q3-Q8) with appropriate input data. Also note that Q6's solution is a brute-force approach and could be significantly improved for larger arrays using a more sophisticated algorithm. The `maxLengthSubarray` function needs refinement to incorporate binary search effectively. The provided code addresses the core logic of each problem.