Ques 4

```cpp
#include <string>
#include<iostream>
using namespace std;

bool isPalindrome(string str) {
    int n = str.length();

    for(int i = 0; i < n / 2; i++) {
        if(str[i] != str[n - i - 1]) {
            return false;
        }
    }
    return true;
}

int main() {
    std::string str = "madam";
    if(isPalindrome(str))
        cout << str << " is a palindrome." << endl;
    else
        cout << str << " is not a palindrome." << endl;

    return 0;
}
```

Ques 2

```cpp
#include <iostream>

template<typename T>
void swapValues(T& a, T& b) {
    T temp;
    temp = a;
    a = b;
    b = temp;
}

int main() {
    int x = 5;
```

```
    int y = 10;

    cout << "Before swapping: x = " << x << ", y = " << y << endl;

    swapValues(x, y);

    std::cout << "After swapping: x = " << x << ", y = " << y << std::endl;

    return 0;
}
```

Ques 3

```
#include <iostream>
using namespace std;

template <class T>
class Calculator {
   private:
    T num1, num2;

   public:
    Calculator(T n1, T n2) {
        num1 = n1;
        num2 = n2;
    }

    void displayResult() {

        cout << "Adition " << add() << endl;
        cout << "Subtraction " << subtract() << endl;
        cout <<"Multiply  " << multiply() << endl;
        cout << "Division " << divide() << endl;
    }

    T add() { return num1 + num2; }
    T subtract() { return num1 - num2; }
    T multiply() { return num1 * num2; }
    T divide() { return num1 / num2; }
};
```

```
int main() {
    Calculator<int> intCalc(2, 1);


    cout << "Int results:" << endl;
    intCalc.displayResult();



    return 0;
}
```

Ques 1

```
#include <iostream>
Using namespace std;
template<typename T>

void printArray(T arr[], int size) {
    for (int i = 0; i < size; ++i) {
        cout << arr[i] << " ";
    }
    cout << endl;
}

int main() {
    int intArray[] = {1, 2, 3, 4, 5};


    std::cout << "Integer Array: ";
    printArray(intArray, 5);


    return 0;
}
```