```
template <typename T>
void AVLTree<T>::insert(Node<T>*& r, const T& item)
{
	if (r == nullptr) {
		r = new Node<T>;
		r->value = item;
		r->left = nullptr;
		r->right = nullptr;
	}
	else {
		if (item < r->value) {
			insert(r->left, item);
		}
		else {
			insert(r->right, item);
		}
	}

	r->bFactor = getBalance(r);
```

```
        if (r->bFactor > 1) {
                if (r->left->bFactor > 0) {
                        rotateRight(r);
                }
                else {
                        rotateLeft(r->left);
                        rotateRight(r);
                }
                updatebFactors(r);
        }
        else if (r->bFactor < -1) {
                        if (r->right->bFactor < 0) {
                                rotateLeft(r);
                        }
                        else {
                                rotateRight(r->right);
                                rotateLeft(r);
                        }
                        updatebFactors(r);
        }
}
```