Chapter 5

Trading Orders
Algorithm Development:
Expert System Approach

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ABSTRACT
The chapter puts into the business of financial markets area in greater detail at FOREX currency market. It describes the main methods used for in currencies trade. The main goal of this paper is to explain the principle of creating an Automated Trading System (ATS) with the MQL4 language. The chapter shows concrete architectural elements of the program on the demonstration examples and it is a guide for the development of an ATS. The main benefit is creation of the original trading system, which optimizes an ATS usage on the base of historical data in practice. Optimization of the trading parameters is based on the equity performance in the historical periods.

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INTRODUCTION

This chapter combines two worlds, in which I am living in. It connects the world of informatics and the world of financial markets. Informatics accompanied me since the early nineties, while with financial markets I met later – in 2007.

The issue of trading the financial instruments is so wide, that it could be written hundreds of books and yet it doesn’t embrace everything. Perhaps, it would be best to have a focus on the one particular part. So, I am going to introduce the basics of financial markets and the programming too.

The essential part of preparation for the creation of trading algorithms is to understand different market operating aspects including actually established methods, that help us to forecast market trends with the best probability. Here are introduced the main ones. Then we can finally proceed to do, what we have really discussed in detail – creation of an automated trading systems by programming.

For our purposes we will focus on the currency FOREX market and programming in MQL4.

Individual instruments here are called “currency pairs” or in an abbreviation “couples”. We will not talk here about the “commission charges” or “rolling positions”. The reason is not that we are not able to program it, but I want to avoid excessive generalization. The development platform for the MQL4 programming language is directly the trading platform Metatrader which is a common tool widely used by many of the world brokers. It will be shown here not just the program construction, but also MQL4 orders. We will create here a simple trading system.

BACKGROUND

The Automated Trading Systems (ATS) are currently primarily used by banks and various financial investment institutions. They created systems for their own needs, with which operate large teams of developers on. Such systems are usually very rugged and their advantage is the relative high safety. There is a movement of huge amount of money, thus it is required completely different approach to a small individual speculator.

There are some commercial programs for traders, which are offered on the Internet at different prices. Unfortunately, nothing, and neither the cost, does not indicate, whether they are a really profitable systems or scam. As profitable or better said “non-loss ATS” we call systems, that in the long term view, the order of days or weeks, its activities the capital on the trading account increases and not vice versa.