

USING THE AUDIT PROGRAM

ENTER YOUR I.D. NUMBER?1
ENTER PASSWORD?GREGG
HELLO SAM ALLEN
I'M HAL YOUR STOCKBROKER
WHAT CAN I DO FOR YOU TODAY?
(ENTER TRANSACTION CODE--FOR LISTING, TYPE '0')

?0

- 1 ----- TO BUY
 - 2 ----- TO SELL
 - 3 ----- TO SELL SHORT
 - 4 ----- TO ENTER DIVIDENDS
 - 5 ----- TO REGISTER STOCKS
 - 6 ----- TO EXIT FROM PROGRAM
- (ENTER TRANSACTION CODE--FOR LISTING, TYPE '0')

?5

DID YOU SAY YOU WISH TO REGISTER A NEW STOCK?
?YES

TYPE THE STOCK'S TICKER-TAPE-I.D. INITIALS
5 CHARACTERS OR LESS

?USC

NOW ENTER THE STOCK'S NAME
18 CHARACTERS OR LESS?UNVI.SOUTH.CAL

NEXT TYPE THE CODE FOR THE STOCK EXCHANGE
3 CHARACTERS?OCE

ENTER YESTERDAY'S CLOSING PRICE?100.13

NOW LET ME MAKE SURE I GOT IT STRAIGHT

UNVI.SOUTH.CAL USC OCE 100.13

IS THIS CORRECT?YES

UNVI.SOUTH.CAL IS NOW REGISTERED
WHAT ELSE CAN I DO FOR YOU TODAY
(ENTER TRANSACTION CODE--FOR LISTING, TYPE '0')

?1

DID YOU SAY YOU WISH TO BUY SOME STOCKS?YES

TYPE THE I.D. OF THE STOCK YOU WISH TO BUY
(TYPE 'XXX' FOR STOCK LISTING)?XXX

***** STOCK LISTING *****

STOCK NAME INITIALS EXCHANGE

INTER NATION BUSD	IBM	NSE
UNVI.SOUTH.CAL	USC	OCE

TYPE THE I.D. OF THE STOCK YOU WISH TO BUY
(TYPE 'XXX' FOR STOCK LISTING)?USC

YES, I CAN BUY SOME SHARES OF UNVI.SOUTH.CAL
FOR YOU

HOW MANY SHARES WOULD YOU LIKE TO BUY?100

O.K. NOW ENTER YESTERDAY'S CLOSING PRICE?100.13

O.K. SAM ALLEN
NOW LET ME MAKE SURE THAT I GOT IT STRAIGHT

YOU WANT ME TO BUY 100 SHARES OF UNVI.SOUTH.
CAL AT \$ 100.13 PER SHARE

IS THIS CORRECT?YES

GREAT!!! I'LL GET ON IT FIRST THING TOMORROW
MORNING. OH, BY THE WAY, MY COMMISSION WILL
BE \$ 139.39

IS THERE ANY THING ELSE I CAN DO FOR YOU?NO

O.K. I'LL TALK TO YOU LATER

USING THE SIMSEX PROGRAM

IS THIS A NEW DAY?YES
ALL PORTFOLIOS HAVE BEEN SUMMED.
END OF TRACE FOUND.
'PRICES' HAS BEEN RECORDED.
PLAYER # 22
PORTFOLIO IS LOADED.
TRANSACTION MADE.

***** NEW REGISTRATION *****

PLAYER : PATTY PRESTON
STOCK NAME : OCCIDENTAL PERTOL INITIAL : OXY
EXCHANGE : NYS
PRICE : 14.5

DO YOU APPROVE?YES

STOCK HAS BEEN LOCATED

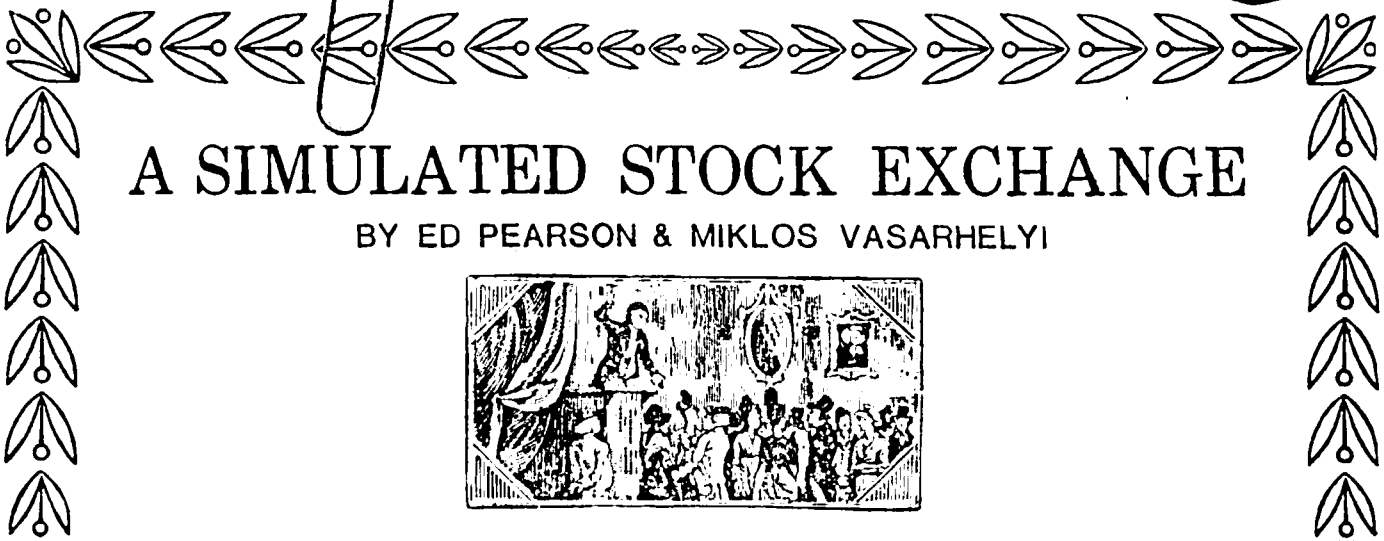
***** PRICE CHECK *****

TRANSACTION - 1 PLAYER: PATTY PRESTON
STOCK NAME : OCCIDENTAL PERTOL INITIALS:OXY
EXCHANGE : NYS
REQUESTED AT : \$ 14.5 ON DATE : 345
LAST LISTED AT : \$ 14.5 ON DATE :345
VARIANCE IS : 0.00 %

DO YOU APPROVE?YES

COMMISSIONS HAVE BEEN CALCULATED

PORTFOLIO HAS BEEN RELOADED



A SIMULATED STOCK EXCHANGE

BY ED PEARSON & MIKLOS VASARHELYI



Reading about the stock market is a pretty dry way to figure out what it's all about. And investing your own money to learn how the market works may be an expensive educational experience. Here's an alternative way to explore the market.



Students at the University of Southern California School of Business can learn about the practices and operations of the stock market, and can try their luck (on a limited scale) in stock trading, by utilizing the computerized SIMSEX (Simulated Stock Exchange) program developed by Professors Miklos Vasarhelyi and Ted Mock and Mr. Sam Allen of the Department of Accounting at USC.

The SIMSEX system was designed as a research tool to attempt to understand the decision-making process, especially in regard to stock market analysis and performance; students act as the "traders" in the market whose decisions are monitored so that the researcher can discover the type and amount of information used, and the method in which it is used in the decision process.

From the student's viewpoint, the simulation is a valuable learning experience. The student can trade freely in whichever stocks he or she finds attractive. In doing so, the student is exposed to the terminology of the market and to the practices and operation of major financial institutions and corporations. The student receives ample "money" to invest (at least \$100,000 in SIMSEX dollars) and then buys and sells the fictional stocks of real companies at the actual prices of the real stock exchange.

The student further is given the option of receiving more SIMSEX-trading dollars by investing real money into the game (up to \$20). Rewards are then given based on the performance which the investing student achieves. For instance, if a student invests \$20 and receives for trading purposes an opening cash level of \$200,000 and by the end of the game has built

a "portfolio" worth \$250,000, then that student would receive \$25, the equivalent amount of "real" dollars.

Many aspects and features of the market are reproduced in the simulation. Players can buy, sell, sell short, trade on margin, invest their money more "safely" in savings accounts, earn dividends, receive stock dividends and stock splits. They must also pay commissions for their broker's services. Because every stock listed on any major exchange is eligible, the player has a wide range of choices and can review the past performance of companies and make forecasts of their future potential, thus refining the skills they have acquired in their business education.

The earliest versions of the simulation were programmed in the APL language. The expanded and revised version is programmed in BASIC (in the HP2000F and 2000 Access versions); it is a conversational on-line system in which the user speaks with his "broker," Hal Pearson (the computer) by typing at a terminal. By answering Hal's questions, the user completes his stock transaction and, if he chooses, receives a report of his portfolio status, including the amount of cash. The user must know certain information in order to trade; for example, in the "buy" transaction, the user must know the stock name, the stock "code" used by the exchange (as found in any stock guide, such as Standard and Poor's), the stock exchange it is traded on, and the selling price (of the previous day, as quoted in the newspaper's financial section). Before any transaction is finalized, an "auditor" must check the accuracy of the information provided by the player. If the auditor approves, the trade is recorded and the player's portfolio updated. The auditor usually performs his function daily, reviewing all transactions which occurred after the previous audit.

The simulation is usually included as part of the required work in certain courses (although students still have the option to invest their own money or not), so the trading period is a rather short one, one semester. Even so, the user is given an excellent opportunity to observe the stock market and to become familiar with stock market methods and with many of the companies whose stocks are traded.

The following runs of the SIMSEX and AUDIT programs indicate the type of student interaction that occurs. Student input in each program is underlined.