1. //Braxton Phillips
2. //SDEV 120
3. // Due May 14, 2020
4. //SDEV120 – M08 Evaluate: Final Project
5. //The function of this program is to emulate an ATM. The program accepts user inputs
6. //for username, pw, and various functions that an ATM would normally perform.
7. //
8. //Main
9. Declare savingsAccount, checkingAccount, accountData[2,4],
10. User, loginCounter, fundsAmount, transactionInput, transctionCounter as
11. Integer
12. Declare userInfo[2,4], Username, Unknown, Password, terminateProgram,
13. accountChoice as String
14. Set userInfo[1,1] = "rbrown"
15. Set userInfo[1,2] = "lwhite"
16. Set userInfo[1,3] = "mblack"
17. Set userInfo[1,4] = "bphillips"
18. Set userInfo[2,1] = "blue123"
19. Set userInfo[2,2] = "red456"
20. Set userInfo[2,3] = "green789"
21. Set userInfo[2,4] = "dad123"
22. Set accountData[2,4] = 0
23. Set accountData[1,1] = 2500
24. Set accountData[1,2] = 500
25. Set accountData[1,3] = 750
26. Set accountData[1,4] = 600
27. Set accountData[2,1] = 35
28. Set accountData[2,2] = 1250
29. Set accountData[2,3] = 200
30. Set accountData[2,4] = 900
31. Set savingsAccount = 1
32. Set checkingAccount = 2
33. Set User = 0
34. Set loginCounter = 2
35. Set fundsAmount = 0
36. Set transactionInput = 0
37. Set transctionCounter = 0
38. //End of declaration/initialization
39. Write "Hello and welcome to Braxton's Automatic Transaction Machine and
40. Algorithm who's Nifty, or BATMAN, for short."
41. Call User\_Info
42. Call Financial\_Data
43. Call User\_Input
44. Call Exit\_Program
45. End Main
46. //
47. User\_Input
48. Write "Please enter your username. Username is case-sensitive. ONLY use
49. letters."
50. Input Username
51. Write "Please enter your password. Password is case-sensitive."
52. Input Password
53. While Username != Unknown
54. If Username == userInfo[1,1] AND Password == userInfo[2,1] Then
55. Write "Hello, Robert Brown! Hope you are doing well today."
56. Set User = 1
57. Else
58. If Username == userInfo[1,2] AND Password == userInfo[2,2]
59. Then
60. Write "Hello, Lisa White! Hope you are doing well today."
61. Set User = 2
62. Else
63. If Username == userInfo[1,3] AND Password ==
64. userInfo[2,3] Then
65. Write "Hello, Mark Black! Hope you are doing well
66. today."
67. Set User = 3
68. Else
69. If Username == userInfo[1,4] AND Password ==
70. userInfo[2,4] Then
71. Write "Hello, Braxton Phillips! Hope you are doing
72. well today."
73. Set User = 4
74. Else
75. Set Username = Unknown
76. If loginCounter < 1 Then
77. Set Username = terminateProgram
78. Else
79. Write "You have entered an incorrect
80. username or password. Please
81. try again. You have "
82. +loginCounter +" attempt(s)
83. remaining."
84. Set loginCounter = loginCounter – 1
85. End If
86. End If
87. End If
88. End If
89. End If
90. If loginCounter < 1 Then
91. Write "This is your last attempt before the program ends."
92. Write "Please input a valid username. Username is case sensitive. ONLY use
93. letters"
94. Input Username
95. Write "Pease enter a valid password. Password is case-sensitive."
96. Input Password
97. Else
98. Write "Please input a valid username. Username is case sensitive. ONLY
99. use letters"
100. Input Username
101. Write "Pease enter a valid password. Password is case-sensitive."
102. Input Password
103. End If
104. End While
105. If Username == TerminateProgram Then
106. Write "You have entered your username and/or password incorrectly too many
107. times. The program is closing. Sorry for any inconvenience."
108. Else
109. Call ATM\_Functions
110. End If
111. End User\_Input
112. //
113. Exit\_Program
114. Write "Thank you for using the BATMAN program. Hope to see you again soon!"
115. End Exit\_Program
116. //
117. ATM\_Functions
118. Write "Please use the following options to decide which action you would like to
119. do.1 -– Deposit, 2 -– Withdrawal, 3 -– Balance Inquiry, 4 -– Transfer Balance, or 5 – Log Out"
120. Write "Please selection a whole number 1 - 5 to select the corresponding action. "
121. Input transactionInput
122. If transactionInput == 1 OR transactionInput == 2 OR transactionInput == 3 OR
123. transactionInput == 4 OR transactionInput == 5 Then
124. Else
125. While transactionInput == 1 OR transactionInput == 2 OR
126. transactionInput == 3 OR transactionInput == 4 OR transactionInput == 5
127. Write "Error. Please enter a valid number to proceed with any operations."
128. Input transactionInput
129. End While
130. End If
131. While transactionInput == 5 OR transactionCounter == 3
132. If transactionInput == 1 Then
133. Set transctionCounter = transctionCounter + 1
134. Write "You have chosen to make a deposit to your account."
135. Call Deposit
136. Else
137. If transactionInput == 2
138. Set transctionCounter = transctionCounter + 1
139. "You have chosen to make a withdrawal from an account."
140. If accountData[1,user] == 0 Then
141. Write "You have no funds to withdraw from your savings
142. account."
143. Else
144. If accountData[2,user] == 0 Then
145. Write "You have no funds to withdraw from your checking
146. account."
147. Else
148. Call Withdraw
149. If transactionInput == 3 Then
150. Set transctionCounter = transctionCounter + 1
151. Write "You have chosen a balance inquiry."
152. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
153. Write "Saving Account Balance: $"
154. +accountData[1,User]
155. Write "Checking Account Balance: $"
156. +accountData[2,User]
157. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
158. Else
159. If transactionInput == 4 Then
160. Set transctionCounter = transctionCounter+1
161. Write "You have chosen to transfer funds
162. between accounts."
163. Call Transfer
164. End If
165. End If
166. End If
167. End If
168. End If
169. End If
170. Write "~You have completed " +transctionCounter +"/3 allowed transactions.~"
171. If transctionCounter == 3 Then
172. Else
173. Write "Please enter 1-4 to perform another operation or select 5 to log out
174. / exit."
175. Input transactionInput
176. While transactionInput == 1 OR transactionInput == 2 OR
177. transactionInput == 3 OR transactionInput == 4 OR transactionInput == 5
178. Write "Error. Please enter a valid number to proceed with any operations."
179. Input transactionInput
180. End While
181. End if
182. End While
183. End ATM\_Functions
184. //
185. Deposit
186. Write "Please indicated whether you would like to deposit funds to your checking
187. or savings account. Use 'C' for checking or 'S' for Savings."
188. Input accountChoice
189. While accountChoice =="C" OR accountChoice == "c" OR accountChoice =="S"
190. OR accountChoice == "s"
191. Write "Error. Please indicated whether you would like to deposit funds to your
192. checking or savings account. Use 'C' for checking or 'S' for Savings."
193. Input accountChoice
194. End While
195. Write "Please input the amount you would like to deposit. This amount may not
196. exceed $500 and must be a whole dollar amount. Or 0 to exit"
197. Input fundsAmount
198. If fundsAmount == 0 Then
199. Write "You have chosen to exit without performing any actions."
200. Else
201. While fundsAmount >= 1 AND fundsAmount <= 500
202. Write "Error. Please input a valid number between 1 and 500 that you
203. would like to deposit."
204. Input fundsAmount
205. End While
206. Set fundsAmount = floor(fundsAmount)
207. Write "$" +fundsAmount +" will be deposited into your account."
208. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
209. If accountChoice == "C" OR accountChoice == "c" Then
210. Write "Previous checking account balance: $"
211. +accountData[checkingAccount , user]
212. Set accountData[checkingAccount, user] =
213. accountData[checkingAccount, user] + fundsAmount
214. Write "Balance after deposit: $" +accountData[checkingAccount, user]
215. Else
216. Write "Previous savings account balance: $"
217. +accountData[savingsAccount , user]
218. Set accountData[savingsAccount, user] =
219. accountData[savingsAccount, user] + fundsAmount
220. Write "Balance after deposit: $"
221. +accountData[savingsAccount, user]
222. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
223. End If
224. End If
225. End Deposit
226. //
227. Withdraw
228. Write "Please indicated whether you would like to withdraw funds from your checking
229. or savings account. Use 'C' for checking or 'S' for Savings."
230. Input accountChoice
231. While accountChoice =="C" OR accountChoice == "c" OR accountChoice =="S"
232. OR accountChoice == "s"
233. Write "Error. Please indicated whether you would like to withdraw funds from
234. your checking or savings account. Use 'C' for checking or 'S' for Savings."
235. Input accountChoice
236. End While
237. Write "Please input the amount you would like to withdraw. This amount may not
238. exceed $500 and must be a whole dollar amount. Or 0 to exit"
239. Input fundsAmount
240. If fundsAmount == 0 Then
241. "You have chosen to exit without performing any actions."
242. Else
243. If accountChoice == "C" OR accountChoice == "c" Then
244. While fundsAmount <= accountData[checkingAccount, user]
245. "Error. You have attempted to withdraw insufficient funds."
246. Write "You must enter an amount up to, but not exceeding $"
247. +accountData[checkingAccount , user]
248. Input fundsAmount
249. End While
250. Else
251. While fundsAmount <= accountData[savingsAccount, user]
252. Write "Error. You have attempted to withdraw insufficient funds."
253. Write "You must enter an amount up to, but not exceeding $"
254. +accountData[savingsAccount , user]
255. Input fundsAmount
256. End While
257. End If
258. While fundsAmount >= 1 AND fundsAmount <= 500
259. Write "Error. Please input a valid number between 1 and 500 that you would like
260. to withdraw."
261. Input fundsAmount
262. End While
263. Set fundsAmount = floor(fundsAmount)
264. Write "$" +fundsAmount +" will be withdrawn from your account."
265. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
266. If accountChoice == "C" OR accountChoice == "c" Then
267. Write "Previous checking account balance: $"
268. +accountData[checkingAccount , user]
269. Set accountData[checkingAccount, user] = accountData[checkingAccount,
270. user] - fundsAmount
271. Write "Balance after withdrawal: $" +accountData[checkingAccount, user]
272. Else
273. Write "Previous savings account balance: $"
274. +accountData[savingsAccount , user]
275. Set accountData[savingsAccount, user] =
276. accountData[savingsAccount, user] +-fundsAmount
277. Write "Balance after withdrawal: $"
278. +accountData[savingsAccount, user]
279. End If
280. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
281. End If
282. End Withdraw
283. //
284. Transfer
285. Write "Please indicated whether you would like to deposit funds to your checking
286. or savings account. Use 'C' for checking or 'S' for Savings."
287. Input accountChoice
288. While accountChoice =="C" OR accountChoice == "c" OR accountChoice =="S"
289. OR accountChoice == "s"
290. Write "Error. Please indicated whether you would like to deposit funds to your
291. checking or savings account. Use 'C' for checking or 'S' for Savings."
292. Input accountChoice
293. End While
294. If accountChoice == "C" OR accountChoice == "c" Then
295. Write "You have chosen to move money to your checking account."
296. Else
297. Write "You have chosen to move money to your savings account."
298. End If
299. Write "Please input the amount you would like to transfer. This amount may not
300. exceed $500 and must be a whole dollar amount. Or 0 to exit"
301. Input fundsAmount
302. If fundsAmount == 0 Then
303. "You have chosen to exit without performing any actions."
304. Else
305. While fundsAmount >= 1 AND fundsAmount <= 500
306. Write "Error. Please input a valid number between 1 and up to 500 that
307. you would like to withdraw."
308. Input fundsAmount
309. End While
310. If accountChoice == "C" OR accountChoice == "c" Then
311. If accountData[savingsAccount, user] == 0 Then
312. Write "Error. You have attempted to perform a transfer with
313. insufficient funds in your savings account."
314. Else
315. While fundsAmount <= accountData[savingsAccount,
316. user] AND accountData[savingsAccount, user] > 0
317. End While
318. Set accountData[savingsAccount, user] =
319. accountData[savingsAccount, user] – fundsAmount
320. Set accountData[checkingAccount, user] =
321. accountData[checkingAccount, user] + fundsAmount
322. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
323. Write "New checking account balance: $"
324. +accountData[checkingAccount, user
325. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
326. End If
327. Else
328. If accountData[checkingAccount, user] == 0 Then
329. Write "Error. You have attempted to perform a transfer with
330. insufficient funds in your checking account."
331. Else
332. While fundsAmount <= accountData[checkingAccount,
333. user] AND accountData[checkingAccount, user] > 0
334. Set accountData[checkingAccount, user] =
335. accountData[checkingAccount, user] – fundsAmount
336. Set accountData[savingsAccount, user] =
337. accountData[savingsAccount, user] + fundsAmount
338. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
339. Write "New savings account balance: $"
340. +accountData[savingsAccount, user]
341. Write "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"
342. End If
343. End If
344. End If
345. End Transfer