

functions.cpp

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1 /*****
2 * PROGRAMMER : Ali Eshghi & Julian Lasting
3 * STUDENT ID : 1112261 & 1097778
4 * CLASS      : CS1B
5 * SECTION    : MW 7:30pm
6 * LAB 14     : Farmer's Pete livestock(inheritance class)
7 * DUE DATE   : 13 December 2019
8 *****/
9
10 #include "MyHeader.h"
11 #include "ClassHeader.h"
12
13 void InitializeSheep(Animal &animal, Sheep &sheep)
14 {
15     string      sheepName;
16     string      sheepAge;
17     string      recordWool;
18     string      recordColor;
19     WoolType     woolType;
20
21     int          index;
22
23     ifstream     inFileSheep;
24
25
26     inFileSheep.open("SheepFile.txt");
27
28     sheep.~Sheep();
29
30     index = 0;
31
32     while(inFileSheep && index < AR_SIZE)
33     {
34         getline(inFileSheep, sheepName);
35
36         getline(inFileSheep, sheepAge);
37
38         //cin.ignore(1000, '\n');
39
40         getline(inFileSheep, recordWool);
41
42         getline(inFileSheep, recordColor);
43
44
45         //cin.ignore(10000, '\n');
46
47         if(recordWool == "LONG")
48         {
49             woolType = LONG;
50         }
51
52         else if(recordWool == "MEDIUM")
53         {
54             woolType = MEDIUM;
55         }
56     }
```

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56
57     else if(recordWool == "FINE")
58     {
59         woolType = FINE;
60     }
61
62     else if(recordWool == "CARPET")
63     {
64         woolType = CARPET;
65     }
66
67
68
69     sheep.GetName(sheepName);
70     sheep.SetSheepName(sheepName);
71
72     sheep.GetAge(sheepAge);
73     sheep.SetSheepAge(sheepAge);
74
75     sheep.SetWool(woolType);
76
77     sheep.SetWoolColor(recordColor);
78
79     sheep.DisplaySheep();
80
81
82     index++;
83 }
84
85 inFileSheep.close();
86 }
87
88
89
90
91 void InitializePig(Animal &animal, Pig &pig)
92 {
93     string    pigName;
94     string    pigAge;
95     string    recordTail;
96     TailType  tailType;
97
98     int       index;
99
100    ifstream   inFilePig;
101
102
103    inFilePig.open("PigFile.txt");
104
105
106
107    index = 0;
108
109
110    while(inFilePig && index < AR_SIZE)

```

```

111 {
112     getline(inFilePig,pigName);
113     getline(inFilePig,pigAge);
114     getline(inFilePig,recordTail);
115
116     if(recordTail == "STRAIGHT")
117     {
118         tailType = STRAIGHT;
119     }
120
121     else if(recordTail == "CORKSCREW")
122     {
123         tailType = CORKSCREW;
124     }
125
126     else if(recordTail == "CURL_UP")
127     {
128         tailType = CURL_UP;
129     }
130
131     else if(recordTail == "CURL_RIGHT")
132     {
133         tailType = CURL_RIGHT;
134     }
135
136     else if(recordTail == "CURL_LEFT")
137     {
138         tailType = CURL_LEFT;
139     }
140
141
142
143     //cin.ignore(10000,'\n');
144
145     pig.GetName(pigName);
146     pig.SetPigName(pigName);
147     pig.GetAge(pigAge);
148     pig.SetPigAge(pigAge);
149     pig.SetTail(tailType);
150     pig.DisplayPig();
151
152     index++;
153 }
154
155
156
157 inFilePig.close();
158 }
159
160
161 /*****
162 * FirstMenu
163 * This function gets the user choice for the first menu that has been run
164 *
165 * RETURNS: integer

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166 *****/
167
168 Menu FirstMenu()
169 {
170
171     /******
172      * VARIABLES *
173      *****/
174
175     int startOption;
176     bool checkInp;
177     Menuoption;
178
179     /******
180      * INITIALIZE *
181      *****/
182
183     checkInp = false;
184
185     //do while loop for error checking
186     do
187     {
188         //INPUT
189
190         cout << "1 - Initialize Animals " << endl;
191         cout << "0 - Exit" << endl;
192         cout << "Enter Selection: ";
193
194
195         //CHECKS FOR THE CHAR INPUT
196
197         if (!(cin >> startOption))
198         {
199             cin.clear();
200             cin.ignore(numeric_limits<streamsize>::max(), '\n');
201
202             cout << endl;
203             cout << "**** Please input a NUMBER between 0 or 1 ****";
204             cout << endl << endl;
205
206             checkInp = false;
207         }
208
209         //CHECKS FOR THE RANGE ERROR
210
211         else if (startOption > 1 || startOption < 0 )
212         {
213
214
215             cout << endl;
216             cout << "**** The number " << startOption
217             << " is an invalid entry ****" << endl;
218             cout << "**** Please input a number between 0 or 1 ****";
219             cout << endl;
220

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221         checkInp = false;
222     }
223 }
224
225 //PASS
226
227 else
228 {
229
230     cin.ignore(numeric_limits<streamsize>::max(), '\n');
231     checkInp = true;
232 }
233 }
234
235 }while(!checkInp);
236
237 if(startOption == 1)
238 {
239     option = InitAnimal;
240 }
241
242 else
243 {
244     option = Exit;
245 }
246
247 //returns an integer to the main
248 return option;
249 }
250
251
252
253 /*****
254 * Menu
255 * This function outputs the main menu and gets the user's choice for the menu
256 * options
257 *
258 * RETURNS: ineger
259 *****/
260
261 int MainMenu()
262 {
263     /*****
264     * VARIABLES *
265     *****/
266
267     int menuOption; //IN - user input for menu
268     bool checkInp; //PROCESS - input check
269
270     /*****
271     * INITIALIZE *
272     *****/
273
274     checkInp = false;
275

```

```

276
277 //do while loop for error checking
278 do
279 {
280     //INPUT
281
282     cout << "1 - Re - Initializing Sheeps " << endl;
283     cout << "2 - Re - Initializing Pigs" << endl;
284     cout << "3 - Change Age" << endl;
285     cout << "4 - Display" << endl;
286     cout << "0 - Exit" << endl;
287
288     cout << "Enter Selection: ";
289
290
291     //CHECKS FOR THE CHAR INPUT
292
293     if (!(cin >> menuOption))
294     {
295         cin.clear();
296         cin.ignore(numeric_limits<streamsize>::max(), '\n');
297
298         cout << endl;
299         cout << "**** Please input a NUMBER between 0 and 4 ****";
300         cout << endl << endl;
301
302         checkInp = false;
303     }
304
305     //CHECKS FOR THE RANGE ERROR
306
307     else if (menuOption > 4 || menuOption < 0 )
308     {
309
310         cout << endl;
311         cout << "**** The number " << menuOption
312         << " is an invalid entry ****" << endl;
313         cout << "**** Please input a number between 0 and 4 ****";
314         cout << endl << endl;
315
316         checkInp = false;
317     }
318
319
320
321     //PASS
322
323     else
324     {
325
326         cin.ignore(numeric_limits<streamsize>::max(), '\n');
327         checkInp = true;
328     }
329
330

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```
331     }while(!checkInp);
332
333     //returns an integer to the main
334     return menuOption;
335 }
336
337 /*****
338  * PrintHeaderFile
339  * This function will output the class heading to the screen.
340  *
341  * return type - nothing
342  *             the function is void type
343  *****/
344
345 void PrintHeader()
346 {
347     cout << left;
348     cout << "*****\n" ;
349     cout << "* PROGRAMMED BY : ALI ESHGHI" ;
350     cout << "\n* " << setw(14) << "CLASS" << ": " << CLASS ;
351     cout << "\n* " << setw(14) << "SECTION" << ": " << SECTION ;
352     cout << "\n* LAB #" << setw(9) << NUM << ": " << NAME ;
353     cout << "\n*****\n\n" ;
354     cout << right;
355 }
356
357
358
359
```