

Midterm Project – Makeup Inventory Organizer

Diana Lugo

C++ Programming

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What my program does

This is a little makeup inventory tracker I made. It stores a list of makeup products from Sephora with info like the name, brand, type, shade, price, and whether I own it or if it's on my wishlist. When the program runs, it shows everything in the collection and lets the user search for a product by name. It also saves the list to a text file.

Concepts used

- **Data types:** I used strings, bools, doubles, etc.
 - **File types:** .cpp, .h, and .txt
 - **Pointers:** used with arrays of objects
 - **Arrays:** stored the makeup items
 - **Binary search:** to search the product name
 - **Strings:** for names, brands, and other text fields
 - **File I/O:** saved everything to makeup.txt
 - **Classes:** two classes: MakeupItem and Inventory that work together
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Screenshots:

```
w64devkit
~ $ cd /
C:/ $ cd Midterm
C:/Midterm $ ls
inventory.cpp  inventory.h  main.cpp  makeup.txt  makeup_app.exe  makeup_item.cpp  makeup_item.h
C:/Midterm $ g++ main.cpp makeup_item.cpp inventory.cpp -o makeup_app
C:/Midterm $ ./makeup_app
≡fÆä Welcome to Your Makeup Organizer ≡fÆä

≡fæf Your Full Collection + Wishlist:
Name: Gloss Bomb, Brand: Fenty Beauty, Type: Lip Gloss, Shade: Fenty Glow, Price: $20, Status: Owned
Name: Lash Princess, Brand: Essence, Type: Mascara, Shade: Black, Price: $5, Status: Wishlist
Name: Shape Tape, Brand: Tarte, Type: Concealer, Shade: Light Medium, Price: $27, Status: Owned

≡föi Enter a makeup product name to search: |
```

```
~ $ g++ main.cpp makeup_item.cpp inventory.cpp -o makeup_app
cc1plus.exe: fatal error: main.cpp: No such file or directory
compilation terminated.
cc1plus.exe: fatal error: makeup_item.cpp: No such file or directory
compilation terminated.
cc1plus.exe: fatal error: inventory.cpp: No such file or directory
compilation terminated.
~ $ ./makeup_app
sh: ./makeup_app: not found
sh: A malformed function table was encountered during an unwind operation. Error 0xc00000ff
~ $
~ $ cd /c/Users/diana/Midterm
sh: cd: can't cd to /c/Users/diana/Midterm: No such file or directory
```

```
≡föi Enter a makeup product name to search: Gloss Bomb
≡fÆä Found it in your collection!

≡föü Your collection was saved to makeup.txt
C:/Midterm $ ./makeup_app
≡fÆä Welcome to Your Makeup Organizer ≡fÆä

≡fæf Your Full Collection + Wishlist:
Name: Gloss Bomb, Brand: Fenty Beauty, Type: Lip Gloss, Shade: Fenty Glow, Price: $20, Status: Owned
Name: Lash Princess, Brand: Essence, Type: Mascara, Shade: Black, Price: $5, Status: Wishlist
Name: Shape Tape, Brand: Tarte, Type: Concealer, Shade: Light Medium, Price: $27, Status: Owned

≡föi Enter a makeup product name to search: Glitter Stick
≡fÿi Nope, not found.

≡föü Your collection was saved to makeup.txt
C:/Midterm $ |
```

Challenges

I added some emojis at first to make it cute, but they made weird characters show up in the terminal, so I just took them out of the VS Code and saved afterward. Another issue was getting the binary search function to return the correct result, especially since string comparison can be case-sensitive. I made sure my list was sorted and the input matched correctly. Also had a couple moments of forgetting how to run everything again after my terminal crashed, but I figured it out. Submitting everything to GitHub is still kind of confusing but I think I got it. This was honestly a lot but I'm glad it runs!