Compilation of Outputs

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User Manual

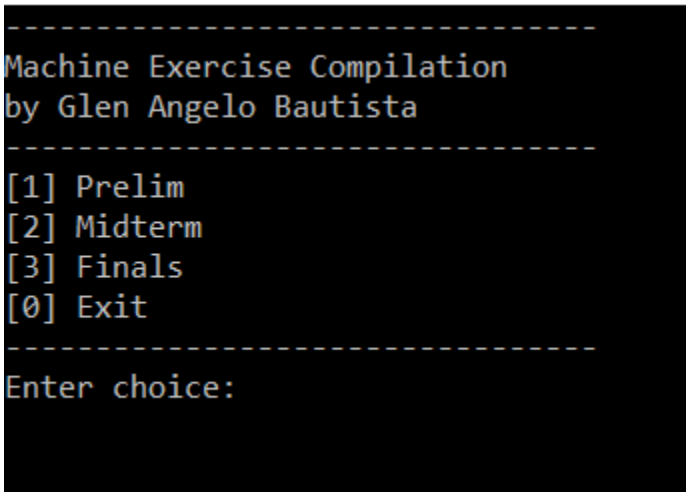
How to use

1. Run the program Bautista_Compilation.exe.
2. When greeted with the main menu, select a term (prelim, midterm, finals).
3. Under each term, there are multiple programs available to be run.
4. Choose a program to run.
5. When in any menu, type 0 to go back. When in the main menu, type 0 to exit.

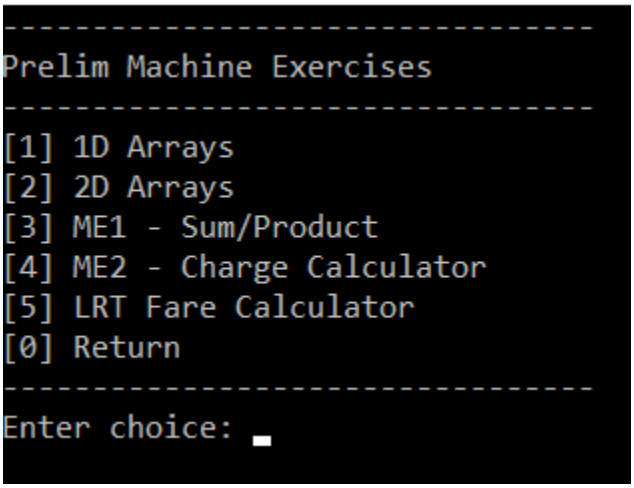
Common Error Messages

- Invalid choice: This error message will be displayed if you enter an option not found in the menu
- Invalid Input: Some programs require user input. The invalid inputs are handled and output this error. Make sure that the input complies with the given prompt.

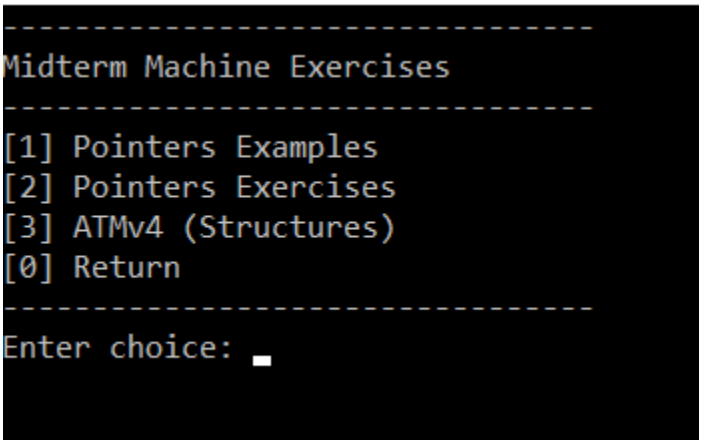
Sample Output



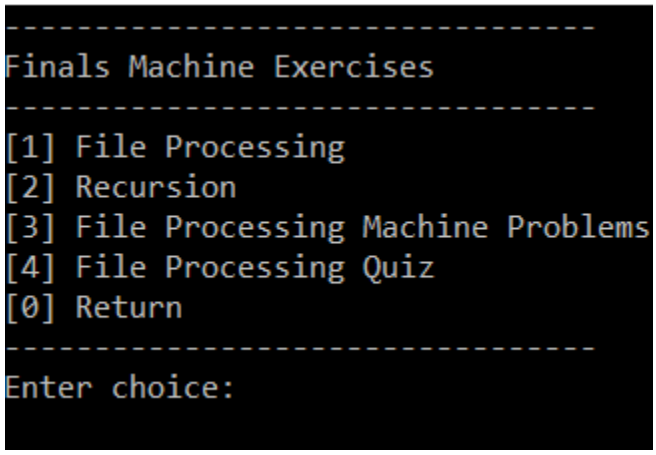
Main Menu



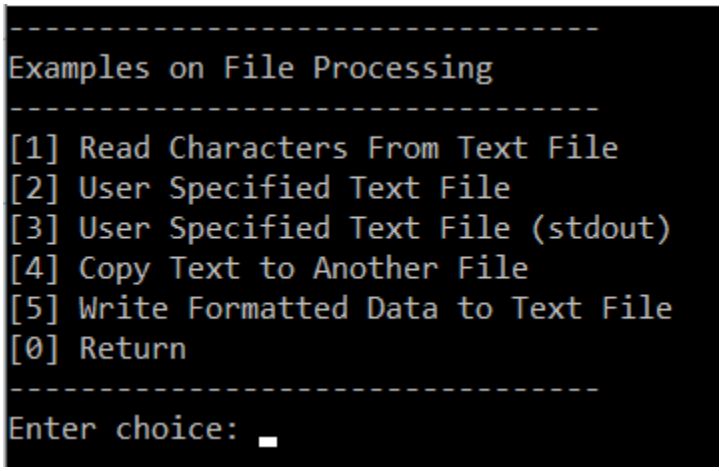
Prelim Menu



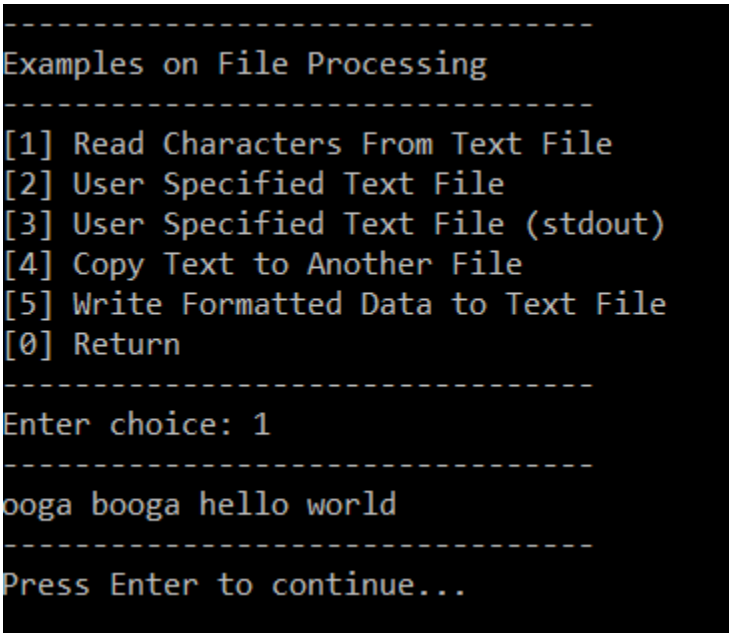
Midterm Menu



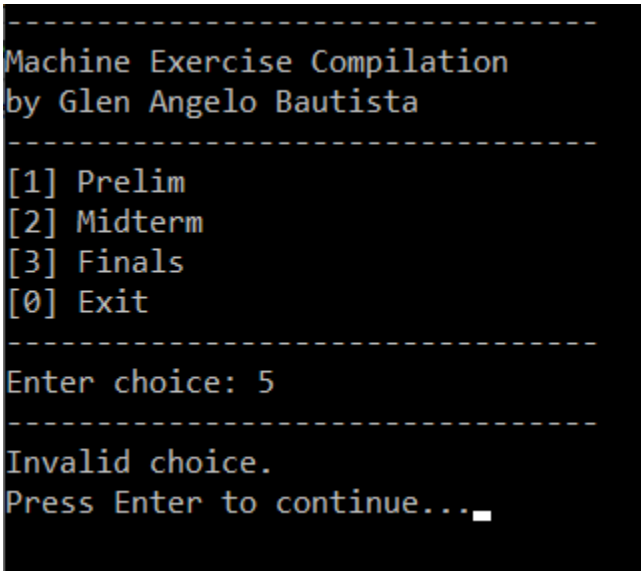
Finals Menu



Finals > File Processing



File Processing > Choice 1: Read Characters From Text File



Invalid Choice

Source Code (Menu only)

NOTE: Each program is located in their respective folders, the source code for those programs are not provided in this documentation.

```
//Final Project - Compilation of all outputs
//Bautista, Glen Angelo D

#include <stdio.h>
#include "glencrypt.h"

#include "./prelim/P1.c"
#include "./prelim/P2.c"
#include "./prelim/ME1.c"
#include "./prelim/ME2.c"
#include "./prelim/Bautista_LRT.c"

#include "./midterm/M1.c"
#include "./midterm/M2.c"
#include "./midterm/Bautista_ATMv4.c"

#include "./finals/F1.c"
#include "./finals/F2.c"
#include "./finals/F3.c"
#include "./finals/Bautista_FPQuiz.c"

void exitProgram();
void showMenuMain();
void showMenuP();
void showMenuM();
void showMenuF();
void showMenuP1();
void showMenuP2();
void showMenuM1(int page);
void showMenuM2();
void showMenuF1();
void showMenuF2();
void showMenuF3();

//I updated all the names in the menus so that its more descriptive of the functionality
```

```
int main() { //main function only calls the main menu, the main loop is located there
	showMenuMain();
	return 0;
}

void exitProgram() { //this is the only function that actually exits the program, every other exits from programs compiled are replaced with a return (back)
	system("cls");
	printf("Exiting Program...\n");
	exit (0);
}

void showMenuMain() {//main menu contains the main screen where you can branch out from
   while(1) {
		system("cls");
		printLine(0);
		printf("Machine Exercise Compilation\n");
		printf("by Glen Angelo Bautista\n");
		printLine(0);
	   printf("[1] Prelim\n");
	   printf("[2] Midterm\n");
	   printf("[3] Finals\n");
		printf("[0] Exit\n");
	   printLine(0);
	int choice;
		input(Int, "Enter choice: ", &choice);
		printLine(0);
		switch (choice) {
			case 1:
		showMenuP();
				printLine(0);
				break;
			case 2:
		showMenuM();
				printLine(0);
				break;
			case 3:
				showMenuF();
				printLine(0);
				break;
			case 0:
```

```
                        exitProgram();
                        break;
                default:
                        printf("Invalid choice.\n");
                        waitEnter();
                }
        }
}

void showMenuP() { //menu for prelim exercises
   while(1) {
                system("cls");
                printLine(0);
                printf("Prelim Machine Exercises\n");
                printLine(0);
           printf("[1] 1D Arrays\n");
           printf("[2] 2D Arrays\n");
           printf("[3] ME1 - Sum/Product\n");
           printf("[4] ME2 - Charge Calculator\n");
           printf("[5] LRT Fare Calculator\n");
           printf("[0] Return\n");
           printLine(0);
        int choice;
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
                        case 1:
                showMenuP1();
                                break;
                        case 2:
                showMenuP2();
                                break;
                        case 3:
                                ME1();
                                break;
                        case 4:
                                ME2();
                                break;
                        case 5:
                                LRT();
                                break;
```

```
                        case 0:
                                showMenuMain();
                                break;
                        default:
                                printf("Invalid choice.\n");
                                waitEnter();
                }
        }
}
void showMenuM() { //menu for midterm exercises
   while(1) {
                system("cls");
                printLine(0);
                printf("Midterm Machine Exercises\n");
                printLine(0);
           printf("[1] Pointers Examples\n");
           printf("[2] Pointers Exercises\n");
           printf("[3] ATMv4 (Structures)\n");
                printf("[0] Return\n");
           printLine(0);
        int choice;
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
                        case 1:
                showMenuM1(1);
                                break;
                        case 2:
                showMenuM2();
                                break;
                        case 3:
                                ATMv4();
                                break;
                        case 0:
                                showMenuMain();
                                break;
                        default:
                                printf("Invalid choice.\n");
                                waitEnter();
                }
        }
```

```
}
void showMenuF() { //menu for finals exercises
   while(1) {
                system("cls");
                printLine(0);
                printf("Finals Machine Exercises\n");
                printLine(0);
          printf("[1] File Processing\n");
          printf("[2] Recursion\n");
          printf("[3] File Processing Machine Problems\n");
          printf("[4] File Processing Quiz\n");
                printf("[0] Return\n");
          printLine(0);
        int choice;
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
                        case 1:
                showMenuF1();
                                break;
                        case 2:
                showMenuF2();
                                break;
                        case 3:
                                showMenuF3();
                                break;
                        case 4:
                                FPQuiz();
                                break;
                        case 0:
                                showMenuMain();
                                break;
                        default:
                                printf("Invalid choice.\n");
                                waitEnter();
                }
        }
}

void showMenuP1() { //menu for prelim exercises subcategory 1
        system("cls");
```

```
while(1) {
        printLine(0);
                printf("Exercises on 1D Array\n");
                printLine(0);
           printf("[1] Initialize Array\n");
           printf("[2] Initialize Custom Array Size\n");
           printf("[3] Get Min Value\n");
           printf("[4] Sum of Array\n");
           printf("[5] Count Negative Numbers\n");
           printf("[6] Test if Value Exists\n");
           printf("[7] Copy Array\n");
           printf("[8] Copy Array Reverse Order\n");
           printf("[9] Test if Arrays are Equal\n");
                printf("[0] Return\n");
           printLine(0);
        int choice;
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
              case 1:
                 exercise1P1();
                 break;
              case 2:
                 exercise2P1();
                 break;
              case 3:
                 exercise3P1();
                 break;
              case 4:
                 exercise4P1();
                 break;
              case 5:
                 exercise5P1();
                 break;
              case 6:
                 exercise6P1();
                 break;
              case 7:
                 exercise7P1();
                 break;
              case 8:
```

```
                exercise8P1();
                break;
            case 9:
                exercise9P1();
                break;
                    case 0:
                        showMenuP();
                        break;
                    default:
                        printf("Invalid choice.\n");
                        waitEnter();
                }
        waitEnter();
        system("cls");
        }
}

void showMenuP2() { //menu for prelim exercises subcategory 2
        system("cls");
   while(1) {
        printLine(0);
                printf("Exercises on 2D Array\n");
                printLine(0);
           printf("[1] Initializing 2D Array\n");
           printf("[2] Input values\n");
           printf("[3] Print 2D Array\n");
           printf("[4] Count Negative Numbers\n");
           printf("[5] Print Diagonal\n");
           printf("[6] Sum of Row\n");
           printf("[7] Sum of Column\n");
           printf("[8] Add 2D Arrays\n");
                printf("[0] Return\n");
           printLine(0);
        int choice;
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
        case 1:
           exercise1P2();
           break;
        case 2:
```

```
            exercise2P2();
            break;
        case 3:
            exercise3P2();
            break;
        case 4:
            exercise4P2();
            break;
        case 5:
            exercise5P2();
            break;
        case 6:
            exercise6P2();
            break;
        case 7:
            exercise7P2();
            break;
        case 8:
            exercise8P2();
            break;
                    case 0:
                            showMenuP();
                            break;
                    default:
                            printf("Invalid choice.\n");
                            waitEnter();
                }
        waitEnter();
        system("cls");
        }
}

void showMenuM1(int page) { //menu for midterm exercises subcategory 1, this one has two
pages
        system("cls");
        switch(page) {
                case 1: {
                   while(1) {
                        printLine(0);
                                printf("Midterm Pointer Examples [1/2]\n");
                                printLine(0);
```

```
        printf("Pointers:\n");
    printf("[1] Array Elements w/ Pointers\n");
    printf("[2] Array Elements w/ Pointers 2\n");
    printf("[3] Array Elements w/ Pointers Reverse\n");
    printf("[4] Array Elements w/o *pa\n");
    printLine(0);
    printf("Pointer Arithmetic:\n");
    printf("[5] Incrementing Pointers\n");
    printf("[6] Incrementing Pointers 2\n");
    printf("[7] Incrementing Pointers w/ Loop\n");
    printLine(0);
    printf("[9] Next Page\n");
        printf("[0] Return\n");
    printLine(0);
int choice;
        input(Int, "Enter choice: ", &choice);
        system("cls");
        printLine(0);
        switch (choice) {
                case 1:
        example1M1();
                        printLine(0);
                        break;
                case 2:
        example2M1();
                        printLine(0);
                        break;
                case 3:
                        example3M1();
                        printLine(0);
                        break;
                case 4:
                        example4M1();
                        printLine(0);
                        break;
                case 5:
                        exampleb1M1();
                        printLine(0);
                        break;
                case 6:
                        exampleb2M1();
```

```
                                printLine(0);
                                break;
                        case 7:
                                exampleb3M1();
                                printLine(0);
                                break;
                        case 9:
                                showMenuM1(2);
                        case 0:
                                showMenuM();
                                break;
                        default:
                                printf("Invalid choice.\n");
                                waitEnter();
                }
                waitEnter();
                system("cls");
        }

        break;

}

case 2: {
   while(1) {
        printLine(0);
                printf("Midterm Pointer Examples [2/2]\n");
                printLine(0);
      printf("Memory Allocation:\n");
      printf("[1] Dynamic Memory Allocation\n");
      printf("[2] Malloc for Multiple Elements\n");
      printf("[3] Malloc for Multiple Elements 2\n");
                printLine(0);
      printf("Other:\n");
      printf("[4] Address / Dereferencing\n");
      printf("[5] Same Address Pointers\n");
      printf("[6] Swap Memory Contents\n");
                printLine(0);
                printf("[9] Previous Page\n");
                printf("[0] Return\n");
      printLine(0);
```

```
int choice;
	input(Int, "Enter choice: ", &choice);
	system("cls");
	printLine(0);
	switch (choice) {
		case 1:
			examplec1M1();
			printLine(0);
			break;
		case 2:
			examplec2M1();
			printLine(0);
			break;
		case 3:
			examplec3M1();
			printLine(0);
			break;
		case 4:
			exampled1M1();
			printLine(0);
			break;
		case 5:
			exampled2M1();
			printLine(0);
			break;
		case 6:
			exampled3M1();
			printLine(0);
			break;
		case 9:
			showMenuM1(1);
		case 0:
			showMenuM();
			break;
		default:
			printf("Invalid choice.\n");
			waitEnter();
	}
	waitEnter();
	system("cls");
}
```

```
                        break;
                }
                default:
                        exit(0);
        }


}

void showMenuM2() { //menu for midterm exercises subcategory 2
        system("cls");
   while(1) {
        printLine(0);
                printf("Exercises on Pointers\n");
                printLine(0);
           printf("[1] Pointer Initialization\n");
           printf("[2] Set Value Using Pointers\n");
           printf("[3] Sum/Add\n");
           printf("[4] Get Sum and Average\n");
           printf("[5] Print Float Array\n");
           printf("[6] Print Double Array\n");
           printf("[7] Print Float Array Reverse\n");
           printf("[8] Print Double Array Reverse\n");
           printf("[9] Dynamic Malloc Float Array\n");
           printf("[10] Dynamic Malloc Double Array\n");
                printf("[0] Return\n");
           printLine(0);
        int choice;
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
                        case 1:
                exercise1M2();
                                printLine(0);
                                break;
                        case 2:
                exercise2M2();
                                printLine(0);
                                break;
                        case 3:
                                exercise3M2();
```

```
                        printLine(0);
                        break;
                case 4:
                        exercise4M2();
                        printLine(0);
                        break;
                case 5:
                        exercise5M2();
                        printLine(0);
                        break;
                case 6:
                        exercise6M2();
                        printLine(0);
                        break;
                case 7:
                        exercise7M2();
                        printLine(0);
                        break;
                case 8:
                        exercise8M2();
                        printLine(0);
                        break;
                case 9:
                        exercise9M2();
                        printLine(0);
                        break;
                case 10:
                        exercise10M2();
                        printLine(0);
                        break;
                case 0:
                        showMenuM();
                        break;
                default:
                        printf("Invalid choice.\n");
                        waitEnter();
                }
        waitEnter();
        system("cls");
        }
}
```

```
void showMenuF1() { //menu for finals subcategory 1
        system("cls");
   while(1) {
        int choice;
        printLine(0);
                printf("Examples on File Processing\n");
                printLine(0);
           printf("[1] Read Characters From Text File\n");
           printf("[2] User Specified Text File\n");
           printf("[3] User Specified Text File (stdout)\n");
           printf("[4] Copy Text to Another File\n");
           printf("[5] Write Formatted Data to Text File\n");;
                printf("[0] Return\n");
           printLine(0);
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch(choice) {
                        case 1:
                example1F1();
                                printLine(0);
                                break;
                        case 2:
                example2F1();
                                printLine(0);
                                break;
                        case 3:
                                example3F1();
                                printLine(0);
                                break;
                        case 4:
                                example4F1();
                                printLine(0);
                                break;
                        case 5:
                                example5F1();
                                printLine(0);
                                break;
                        case 0:
                                showMenuF();
                                break;
```

```
                default:
                        printf("Invalid choice.\n");
                        waitEnter();
                }
                waitEnter();
                system("CLS");
        }
}


void showMenuF2() { //menu for finals subcategory 2
        system("cls");
   while(1) {
        int choice;
        printLine(0);
        printf("Exercises on Recursion\n");
                printLine(0);
                printf("[1] Series 1\n");
                printf("[2] Series 2\n");
                printf("[3] Binary Traversal\n");
                printf("[4] Mystery\n");
                printf("[5] BLIP BLAP\n");
                printf("[6] Fibonacci\n");
                printf("[7] Ackermann\n");
                printf("[0] Return\n");
                printLine(0);
                input(Int, "Enter choice: ", &choice);
                printLine(0);
                switch (choice) {
                        case 1:
                series1F2(5);
                                printLine(0);
                                break;
                        case 2:
                series2F2(5);
                                printLine(0);
                                break;
                        case 3:
                                example3F2();
                                printLine(0);
                                break;
```

```
                        case 4:
                                exercise1F2();
                                printLine(0);
                                break;
                        case 5:
                                exercise2F2();
                                printLine(0);
                                break;
                        case 6:
                                exercise3F2();
                                printLine(0);
                                break;
                        case 7:
                                exercise4F2();
                                printLine(0);
                                break;
                        case 0:
                                showMenuF();
                                break;
                        default:
                                printf("Invalid choice.\n");
                                waitEnter();
                }

                waitEnter();
                system("cls");
        }
}

void showMenuF3() { //menu for finals subcategory 3
        system("cls");
   while(1) {
        int choice;
        printLine(0);
        printf("File Processing Machine Problems\n");
                printLine(0);
                printf("[1] Write A to Z to Text File\n");
                printf("[2] Read Text File\n");
                printf("[0] Return\n");
                printLine(0);
                input(Int, "Enter choice: ", &choice);
```

```
                printLine(0);
                switch (choice) {
                        case 1:
                MP1(5);
                                printLine(0);
                                break;
                        case 2:
                MP2(5);
                                printLine(0);
                                break;
                        case 0:
                                showMenuF();
                                break;
                        default:
                                printf("Invalid choice.\n");
                                waitEnter();
                }

                waitEnter();
                system("cls");
        }
}
```