

Menu Driven Apps

Loops, menus and the switch statement

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Topics list

- A simple menu using switch.
- ShopV3.0 – adding a menu.

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- A simple menu using switch.
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Now loop on the switch statement

```
public Driver() {  
    runMenu();  
}
```

```
private void runMenu(){  
    int choice;  
    System.out.println("Choose a number between 1 and 3, 0 to exit: ");  
    choice = input.nextInt();  
  
    while (choice != 0){  
        switch (choice) {  
            case 1 -> System.out.println("You chose 1.");  
            case 2 -> System.out.println("You chose 2.");  
            case 3 -> System.out.println("You chose 3.");  
            default -> System.out.println("Invalid option entered");  
        }  
  
        System.out.println("Choose a number between 1 and 3, 0 to exit: ");  
        choice = input.nextInt();  
    }  
}
```

Note the use of
the Loop Control
Variable, **option**.

This gives the following output

```
private void runMenu(){
    int choice;
    System.out.println("Choose a number between 1 and 3, 0 to exit: ");
    choice = input.nextInt();

    while (choice != 0){
        switch (choice) {
            case 1 -> System.out.println("You chose 1.");
            case 2 -> System.out.println("You chose 2.");
            case 3 -> System.out.println("You chose 3.");
            default -> System.out.println("Invalid option entered");
        }

        System.out.println("Choose a number between 1 and 3, 0 to exit: ");
        choice = input.nextInt();
    }
}
```

```
Driver driver1 = new Driver();
Choose a number between 1 and 3, 0 to exit:
2
You chose 2.
Choose a number between 1 and 3, 0 to exit:
3
You chose 3.
Choose a number between 1 and 3, 0 to exit:
4
Invalid option entered
Choose a number between 1 and 3, 0 to exit:
0
Thanks and goodbye
```

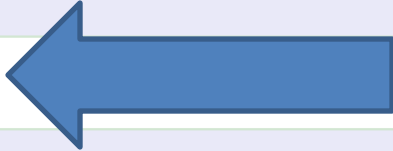
If you wanted more than one line of code associated with a case, just declare a code block:

```
private void runMenu(){
    int choice;
    System.out.println("Choose a number between 1 and 3, 0 to exit: ");
    choice = input.nextInt();

    while (choice != 0){
        switch (choice) {
            case 1 -> {
                System.out.println("You chose 1.");
                System.out.println("You chose one.");
            }
            case 2 -> System.out.println("You chose 2.");
            case 3 -> System.out.println("You chose 3.");
            default -> System.out.println("Invalid option entered");
        }

        System.out.println("Choose a number between 1 and 3, 0 to exit: ");
        choice = input.nextInt();
    }

    System.out.println("Thanks and goodbye");
}
```



If you wanted more than one line of code associated with a case, just declare a code block:

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private void runMenu(){
    int choice;
    System.out.println("Choose a number between 1 and 3, 0 to exit: ");
    choice = input.nextInt();

    while (choice != 0){
        switch (choice) {
            case 1 -> {
                System.out.println("You chose 1.");
                System.out.println("You chose one.");
            }
            case 2 -> System.out.println("You chose 2.");
            case 3 -> System.out.println("You chose 3.");
            default -> System.out.println("Invalid option entered");
        }

        System.out.println("Choose a number between 1 and 3, 0 to exit: ");
        choice = input.nextInt();
    }
    System.out.println("Thanks and goodbye");
}
```

```
Driver driver1 = new Driver();
```

```
Choose a number between 1 and 3, 0 to exit:
```

```
1
```

```
You chose 1.
```

```
You chose one.
```

```
Choose a number between 1 and 3, 0 to exit:
```

Topics list

- A simple menu using switch.
- ShopV3.0 – adding a menu.

Adding a basic menu to Shop...

Shop Menu

1) Add a product

2) List the products

3) List the current products

4) Display average product unit cost

5) Display cheapest product

6) List products that are more expensive than a given price

0) Exit

==>>

More on print

- We have a new way to print to console in a formatted way

```
private void printMenu(){  
    System.out.println("""  
        This is a new way of writing  
        many lines in a particular  
        format""");  
}
```



```
Driver driver1 = new Driver();  
This is a new way of writing  
many lines in a particular  
format
```

We are using **Raw Strings** (the triple double quotes) to format the output for the menu.

Menu to be displayed...

Driver Class

```
private int mainMenu(){
    System.out.print("""
Shop Menu
-----
    1) Add a product
    2) List the products
    -----
    3) List the current products
    4) Display average product unit cost
    5) Display cheapest product
    6) List products that are more expensive than a given price
    -----
    0) Exit
    ==>> """);
    int option = input.nextInt();
    return option;
}
```

Shop Menu

```
-----
1) Add a product
2) List the products
-----
3) List the current products
4) Display average product unit cost
5) Display cheapest product
6) List products that are more expensive than a given price
-----
0) Exit
==>>
```

Handling the menu input...

Driver Class

```
private void runMenu(){
    int option = mainMenu();

    while (option != 0){

        switch (option){
            case 1 -> addProduct();
            case 2 -> printProducts();
            case 3 -> printCurrentProducts();
            case 4 -> printAverageProductPrice();
            case 5 -> printCheapestProduct();
            case 6 -> printProductsAboveAPrice();
            default -> System.out.println("Invalid option entered: " + option);
        }

        //pause the program so that the user can read what we just printed to the terminal window
        ScannerInput.nextLine(prompt: "\nPress enter key to continue...");

        //display the main menu again
        option = mainMenu();
    }
}
```

Calling the menu on startup...

Driver Class

```
public class Driver{  
  
    private Store store = new Store();  
  
    public static void main(String[] args) {  
        new Driver();  
    }  
  
    public Driver() {  
        runMenu();  
    }  
}
```

Shop Menu

- ```

1) Add a product
2) List the Products

3) List the current products
4) Display average product unit cost
5) Display cheapest product
6) List products that are more expensive than a given price

0) Exit
```

==>>

# NOTE: A simple menu using the **older** format of the switch statement

---

```
public void run()
{
 System.out.println("Choose a number between 1 and 3");
 int choice = input.nextInt();

 switch(choice)
 {
 case 1:
 System.out.println("You chose 1");
 break;
 case 2:
 System.out.println("You chose 2");
 break;
 case 3:
 System.out.println("You chose 3");
 break;
 default:
 System.out.println("You chose an invalid number");
 break;
 }
}
```

A **break** statement is needed after each case, otherwise execution “falls” into the next statement regardless.

# Questions?

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