

**NATIONAL TECHNICAL UNIVERSITY OF UKRAINE  
“IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE”**

Faculty of Informatics and Computer Engineering

Department of Computer Engineering

# **Distributed Information Systems**

## **Lab №2 Java Threads**

Student, group IM-14 FIOT

MEHMET KULUBECIOGLU

Reviewer YULIA TIMOFEEVA

Kyiv – 2024

## TASKS:

1. **Create a new project**
  - Write PrintNameThread.java as shown below
2. **Modify the ExtendThreadClassTest0.java as shown below.**
3. **Modify ExtendThreadClassTest0.java as following. Build and run the application.**
  - Create and start another thread.
  - Set the name of the thread as "MyOwn"
4. **Create a new project. Under Name and Location pane, for the Project Name field, type in ExtendThreadClassTest2 as project name. For Create Main Class field, type in ExtendThreadClassTest2.**
5. **Write PrintNameThread.java as shown below. Note that the start() method is invoked as part of the constructor method of the PrintNameThread class.**
6. **Modify ExtendThreadClassTest2.java as following. Build and run the application:**
  - Create and start another thread.
  - Set the name of the thread as "MyOwn"

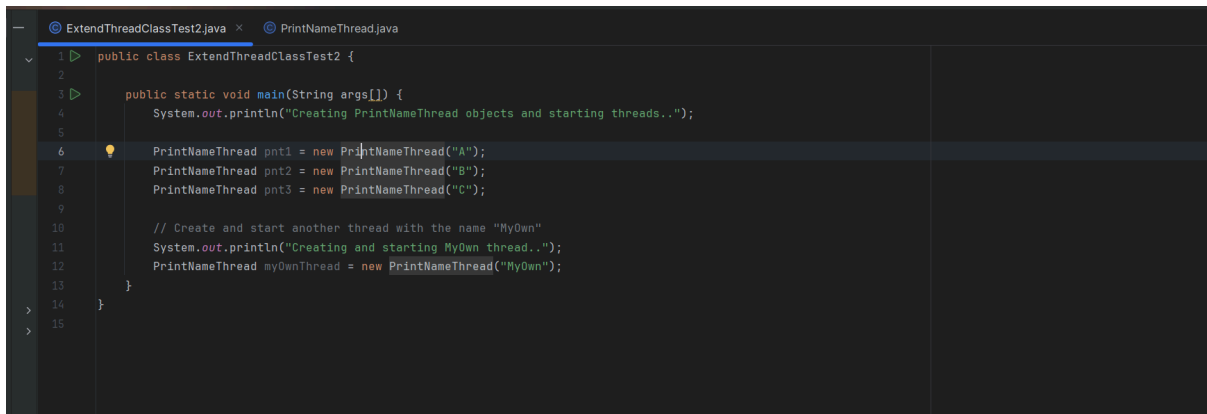
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```

## ExtendThreadClassTest2.java

### 1. Main Method

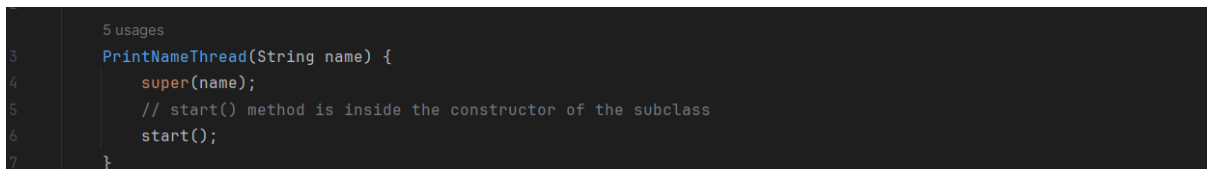
- The statement "Creating PrintNameThread objects and starting threads.." is printed on the screen.



```
1 public class ExtendThreadClassTest2 {  
2  
3     public static void main(String args[]) {  
4         System.out.println("Creating PrintNameThread objects and starting threads..");  
5  
6         PrintNameThread pnt1 = new PrintNameThread("A");  
7         PrintNameThread pnt2 = new PrintNameThread("B");  
8         PrintNameThread pnt3 = new PrintNameThread("C");  
9  
10        // Create and start another thread with the name "MyOwn"  
11        System.out.println("Creating and starting MyOwn thread..");  
12        PrintNameThread myOwnThread = new PrintNameThread("MyOwn");  
13    }  
14 }  
15
```

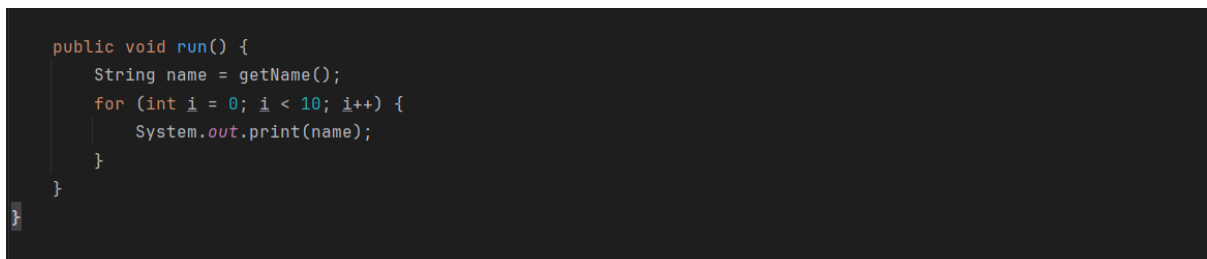
## PrintNameThread.java

### 1. Constructor Method



```
5 usages  
3 PrintNameThread(String name) {  
4     super(name);  
5     // start() method is inside the constructor of the subclass  
6     start();  
7 }
```

### 2. Run Method



```
public void run() {  
    String name = getName();  
    for (int i = 0; i < 10; i++) {  
        System.out.print(name);  
    }  
}
```

### 3. Output

```
Run ExtendThreadClassTest2 x
"C:\Program Files\Microsoft\jdk-11.0.10-hotspot\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=55941:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8
Creating PrintNameThread objects and starting threads..
Creating and starting MyOwn thread..
AAAAAAAAAABCCCCCMyOwnMyOwnMyOwnMyOwnMyOwnMyOwnMyOwnMyOwnMyOwnBBBBBBBBCCCC
Process finished with exit code 0
```

## Report:

ExtendThreadClassTest2.java

## 1. Main Method

- "Creating PrintNameThread objects and starting threads.." is printed on the screen.

## 2. Creating and Starting Thread A

- Thread A is created with the name "A".
- Thread A is started and the run method is executed.

### 3. Creating and Starting Thread B

- Thread B is created with the name "B".
- Thread B is started and the run method is executed.

#### 4. Creating and Starting Thread C

- Thread C is created with the name "C".
- Thread C is started and the run method is executed.

### 5. A Custom Thread is Created with the Name "MyOwn"

- A thread named "MyOwn" is created but not started.

PrintNameThread.java

## 1. Constructor Method

- Thread name is assigned.
- The thread is started and the run method is executed.

## 2. Run Method

- The name of the thread is taken.
- The name is printed on the screen 10 times.