

The screenshot shows a Java application running in an IDE. The main window displays the source code for a class named `Stacks`. The code implements a stack using the `Stack<Integer>` class from the `java.util` package. It provides five operations: Push, Pop, Peek, Display Stack, and Exit. The user can enter their choice and a number to push onto the stack. The output window shows the stack operations menu, the user's choice of 1 (Push), the input of 435, and the confirmation that 435 was pushed onto the stack.

```
/*
import java.util.*;
public class Stacks {

    public static void main(String[] args) {
        Stack<Integer> stack = new Stack<()>();
        Scanner scanner = new Scanner(System.in);

        System.out.println("\nStack Operations:");
        System.out.println("1. Push");
        System.out.println("2. Pop");
        System.out.println("3. Peek");
        System.out.println("4. Display Stack");
        System.out.println("5. Exit");

        while (true) {
            System.out.print("\nEnter your choice: ");
            int choice = scanner.nextInt();

            switch (choice) {
                case 1:
                    System.out.print("Enter a number to push: ");
                    int num = scanner.nextInt();
                    stack.push(num);
                    System.out.println(num + " pushed onto the stack.");
                    break;

                case 2:
                    if (!stack.isEmpty()) {
                        int pop = stack.pop();
                        System.out.println("Popped element: " + pop);
                    } else {
                        System.out.println("Stack is empty. Nothing to pop.");
                    }
                    break;
            }
        }
    }
}
```

Output - Run (Stacks) ×

```
Stack Operations:
1. Push
2. Pop
3. Peek
4. Display Stack
5. Exit

Enter your choice: 1
Enter a number to push: 435
435 pushed onto the stack.
```

The screenshot shows the NetBeans IDE interface with the following details:

**Top Bar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, prg18..., Search (Ctrl+I)

**Toolbar:** Standard icons for file operations like Open, Save, Find, etc.

**Project Bar:** Shows Stacks.java and Prg18.java as open files.

**Source Tab:** Active tab. The code is as follows:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/gui-form.html to change this template
 */
package com.mycompany.prg18;

/**
 * @author lBSCCSA43
 */
import java.util.*;
public class Prg18 {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter three numbers");
        int a = sc.nextInt();
        int b = sc.nextInt();
        int c = sc.nextInt();
        int max = Math.max(Math.max(a,b),c);
        int min = Math.min(Math.min(a,b),c);
        System.out.println("Greatest number is "+max);
        System.out.println("Smallest number is "+min);
    }
}
```

**Output - Run (prg18) Tab:**

```
Recompiling the module because of changed source code.
Compiling 1 source file with javac [debug release 25] to target\classes

--- exec:3.5.1:exec (default-cli) @ prg18 ---
Enter three numbers
99
89
90
Greatest number is 99
Smallest number is 89
```

The screenshot shows a Java development environment with the following interface elements:

- Top Bar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, prg19 ..., Search (Ctrl+I).
- Toolbar:** Includes icons for file operations like Open, Save, Find, and Run.
- Project Explorer:** Shows three files: Stacks.java, Prg18.java, and Prg19.java (the active file).
- Source Tab:** Active tab, displaying the code for Prg19.java.
- Code Editor:** The main area showing the Java code. The code calculates taxi fare based on distance covered.
- Output Tab:** Shows the execution results of the program.
- Bottom Status Bar:** Displays build status (BUILD SUCCESS), total time (Total time: 4.403 s), and a small icon.

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 */
package com.mycompany.prg19;

/**
 *
 * @author lBSCCSA43
 */
import java.util.*;
public class Prg19 {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the distance covered");
        double dis = sc.nextInt();
        double fare;
        if(dis <= 5) {
            fare = 100;
        }else if(dis > 5 && dis <= 15 ){
            fare = (dis - 5) * 10;
            fare += 100;
        }else if(dis > 15 && dis <= 25){
            fare = 100 + 100 + (dis - 15) * 8;
        }else{
            fare = 100 + 100 + 80 + (dis - 25) * 5;
        }
        System.out.println("Taxi no. : TN 66 AD 7921");
        System.out.println("Distance covered : "+dis);
        System.out.println("Amount \u20B9: "+fare);
    }
}
```

**Output - Run (prg19)**

```
--- exec:3.5.1:exec (default-cli) @ prg19 ---
Enter the distance covered
23
Taxi no. : TN 66 AD 7921
Distance covered : 23.0
Amount ?: 264.0
-----
BUILD SUCCESS
-----
Total time: 4.403 s
```

The screenshot shows an IDE interface with the following details:

- File Menu:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help.
- Search Bar:** Search (Ctrl+I).
- Toolbar:** Includes icons for file operations like Open, Save, and Print, along with configuration and system status indicators.
- Project Bar:** Shows files Stacks.java, Prg18.java, Prg19.java, and Prg20.java.
- Sidebar:** Projects, Files, Favorites, Services.
- Source Editor:** Displays the Java code for Prg20.java. The code reads a total cost from the user, calculates a discount, and prints the amount to be paid and the gift type. The gift types are determined by the cost range: Calculator (0-2000), School Bag (2001-5000), Wall Clock (5001-10000), and Wrist Watch (above 10000). The code uses Scanner for input and System.out.println for output.
- Output Window:** Output - Run (prg20) shows the build process and execution results. It includes messages about recompiling and compiling, the command executed (exec:3.5.1:exec (default-cli) @ prg20), user input (Enter total cost: 5900), the calculated amount (Amount to be paid: 5015.0), the gift (Gift: Wall Clock), a BUILD SUCCESS message, and a total execution time (Total time: 9.497 s).

```
10  */
11  import java.util.*;
12  public class Prg20 {
13
14      public static void main(String[] args) {
15          Scanner sc = new Scanner(System.in);
16          System.out.print("Enter total cost: ");
17          double cost = sc.nextDouble();
18          String gift;
19          double amt;
20          if (cost <= 2000) {
21              amt = cost - (cost * 5 / 100);
22              gift = "Calculator";
23          }else if (cost > 2000 && cost <= 5000 ) {
24              amt = cost - (cost * 10 / 100);
25              gift = "School Bag";
26          }else if (cost > 5000 && cost <= 10000) {
27              amt = cost - (cost * 15 / 100);
28              gift = "Wall Clock";
29          }else {
30              amt = cost - (cost * 20 / 100);
31              gift = "Wrist Watch";
32          }
33          System.out.println("Amount to be paid: " + amt);
34          System.out.println("Gift: " + gift);
35      }
36  }
37
38
```

Output - Run (prg20) ×

- Recompiling the module because of changed source code.
- Compiling 1 source file with javac [debug release 25] to target\classes
- exec:3.5.1:exec (default-cli) @ prg20 ---
- Enter total cost: 5900
- Amount to be paid: 5015.0
- Gift: Wall Clock
- BUILD SUCCESS
- Total time: 9.497 s

The screenshot shows an IDE interface with a Java code editor and an output window.

**Java Code (Prg21.java):**

```
7  /*
8  *
9  * @author 1BSCCSA43
10 */
11 import java.util.*;
12 public class Prg21 {
13
14     public static void main(String[] args) {
15         Scanner sc = new Scanner(System.in);
16         System.out.println("Enter your name."); String name = sc.nextLine();
17         System.out.println("Enter your age."); int age = sc.nextInt();
18         System.out.println("Enter your income."); double ti = sc.nextDouble();
19         double tax;
20         if(age > 60){
21             System.out.println("Wrong category");
22         }else{
23             if(ti <= 250000){
24                 System.out.println("Name : "+name);
25             }System.out.println("Tax amount : Nil"); }else if(ti > 250000 && ti <= 500000){
26                 tax = (ti - 160000)*0.1;
27                 System.out.println("Name : "+name);
28                 System.out.println("Tax amount : \u20B9"+tax);
29             }else if(ti > 500000 && ti <= 1000000){
30                 tax = (ti - 500000)* 0.2 + 34000;
31                 System.out.println("Name : "+name);
32             }System.out.println("Tax amount : \u20B9"+tax); }else if(ti > 1000000){
33                 tax = (ti - 1000000)* 0.2 + 94000;
34                 System.out.println("Name : "+name);
35             }System.out.println("Tax amount : \u20B9"+tax); }
36
37     }
38 }
39
```

**Output - Run (prg21) :**

```
--- exec:3.5.1:exec (default-cli) @ prg21 ---
Enter your name.
sarvesh
Enter your age.
18
Enter your income.
560000
Name : sarvesh
Tax amount : ?46000.0
-----
```