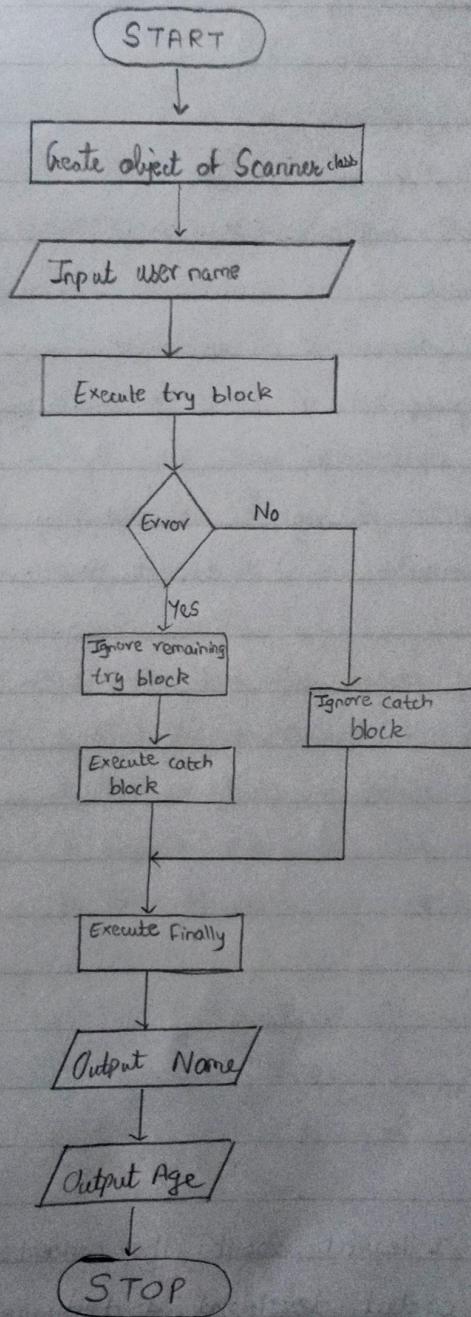


Practical No. 11

Aim : Create , debug and run java programs based on exception handling.

Flowchart :



Aim : Create, debug and execute run java programs based on exception handling.

Theory :

What is exception handling?

- Exception handling is one of the powerful mechanism to handle ~~run~~ the runtime errors so that the normal flow of the application can be maintained.
- An exception is a condition condition that is caused by a run-time error in the program.
- When the Java interpreter encounters an error such as dividing an integer by zero, it creates an Exception object and throws it (i.e. informs us that an error has occurred).
- What tasks does the error handling code perform:
 - 1. Find the problem (Hit the exception)
 - 2. Inform that an error has occurred (Throw the exception).
 - 3. Receive the error information (Catch the exception).
 - 4. Take the corrective actions (Handle the exception).

• What are the types of exception?

- i) Checked Exception
- ii) Unchecked Exception

i) Checked Exception :

These exceptions are explicitly handled in the code itself with the help of try-catch

block. Checked exceptions are extended from the `java.lang.Exception` class.

2) Unchecked Exceptions :

These exceptions are not essentially handled in the program code; instead the JVM handles such exceptions.

- Unchecked exceptions are extended from the `java.lang.RuntimeException`.

• Syntax :

`try {`

`Statement(s);`

`} catch (Exception e) {`

`Statement(s);`

~~`} catch`~~

`finally {`

`Statement(s);`

`}`

integers in variables (variable), float
or double type of variable

: exception handling

Programs have some constraints or
errors and managing them is difficult.
such as, our school has 100
seats written on board

and we can't count 100

seats :-

exception

(e) exception

↳ exception handling

↳ exception

↳ exception

↳ exception

Conclusion:

Hence, I learnt about the concept of exception handling. I also created, debugged and executed java programs based on exception handling.

Code:

```
import java.util.InputMismatchException;
import java.util.Scanner;

class Practical11{

    public static int setAge(){
        Scanner sc = new Scanner(System.in);
        int age = 0;

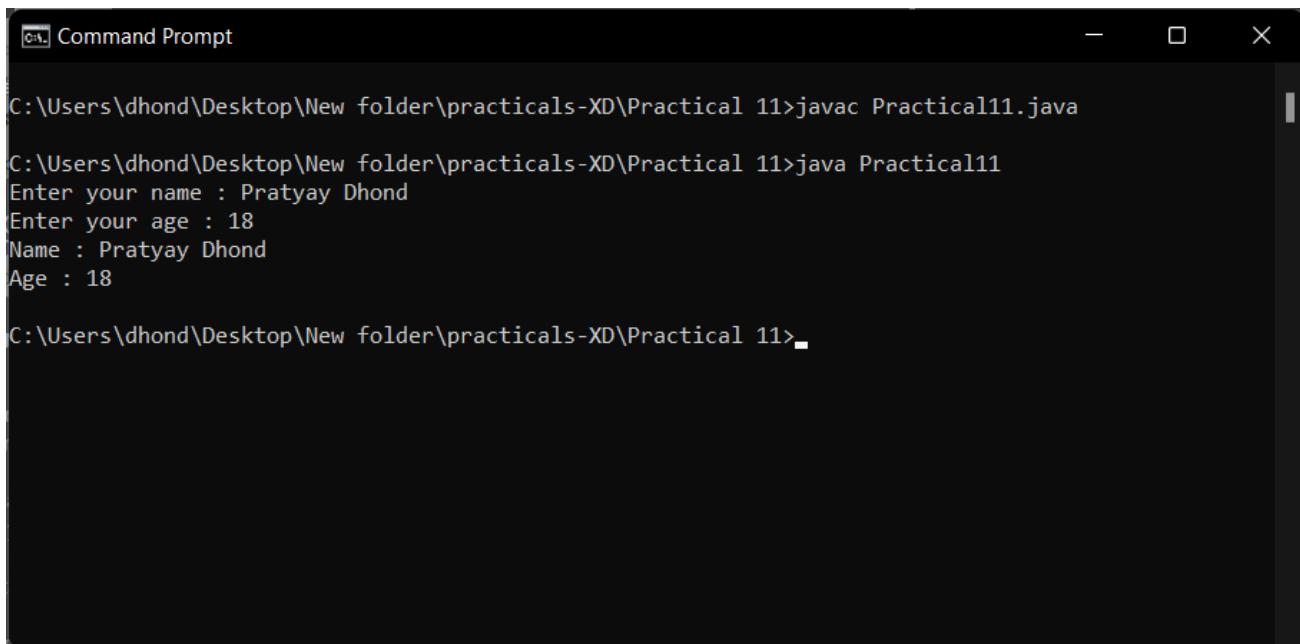
        try {
            System.out.print("Enter your age : ");
            age = sc.nextInt();
        }catch(InputMismatchException e){
            System.out.println("Wrong input, please re-enter age again");
            age = setAge();
        }catch (Exception e){
            System.out.println("Unexpected error : ");
            System.out.println(e);
            System.out.println("Setting age to 0.");
        }finally {
            return age;
        }
    }

    public static void main(String[] args) {
        int age;
        String name;
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter your name : ");
        name = sc.nextLine();
        age = setAge();

        System.out.println("Name : " + name);
        System.out.println("Age : " + age);
    }
}
```

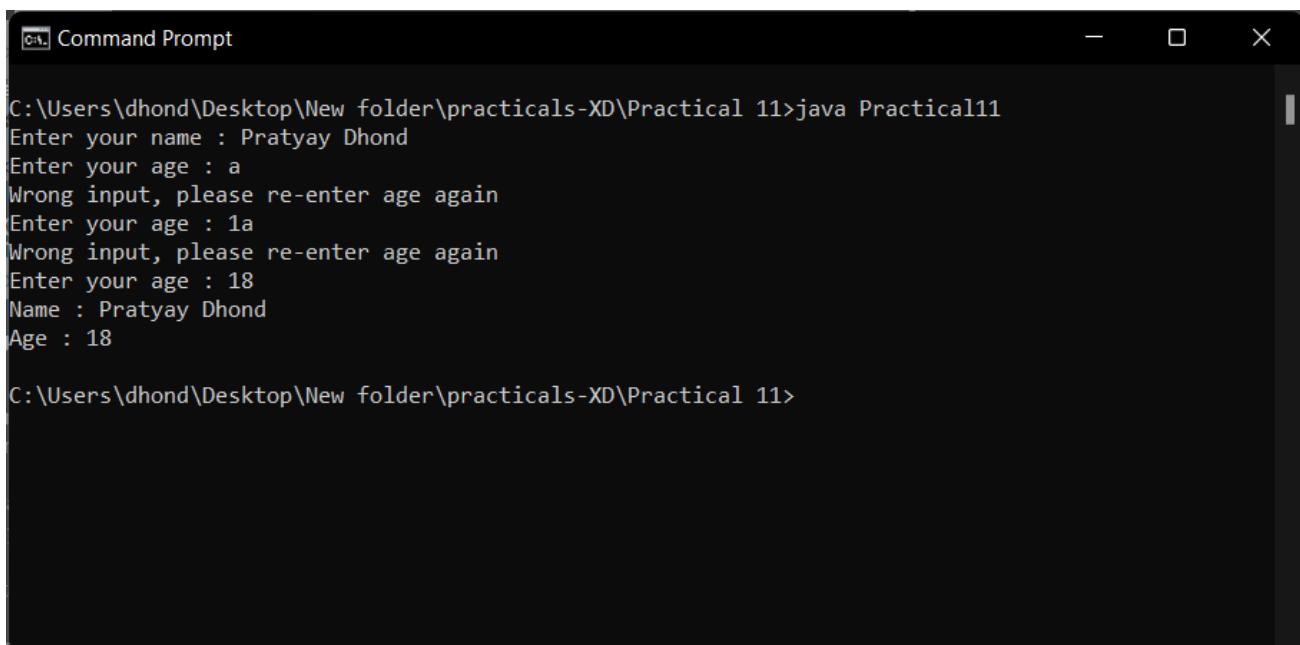
Output:



A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the following text output:

```
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 11>javac Practical11.java
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 11>java Practical11
Enter your name : Pratyay Dhond
Enter your age : 18
Name : Pratyay Dhond
Age : 18
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 11>
```

Correct Input



A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the following text output:

```
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 11>java Practical11
Enter your name : Pratyay Dhond
Enter your age : a
Wrong input, please re-enter age again
Enter your age : 1a
Wrong input, please re-enter age again
Enter your age : 18
Name : Pratyay Dhond
Age : 18
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 11>
```

Incorrect Input - Exception

Conclusion :

Hence, I learnt about the ~~concep~~ concept of exception handling.
I also created, debugged and executed java programs based
on exception handling.