LAB-6 30/12/22

Q). Write a program that demonstrates handling of exceptions in inheritance tree. Create a base class called "Father" and derived class "Son" which extends the base class. In Father class implement a constructor which takes the age and throw the exception WrongAge() when the input is age<0. In Son class, implement a constructor that takes both father and son's age and throws an exception if son age is >= father's age.

```
import java.util.Scanner;

class WrongAgeException extends Exception {
    public String toString() {
        return ("Entered age is negative");
    }
}

class AgeException extends Exception {
    public String toString() {
        return ("Age entered of the son is greater than
                that of the father");
    }
}

class father {
    int father_age;
    Father(int x) throws WrongAgeException {
        father_age = x;
        if (father_age<0) {
            throw new WrongAgeException();
        }
    }
}
```

```
class Son extends
    int son_ag
Son (int x, int y
    super(x,
    son_age
    if (son_ag
        throw
    }
}
class Lab_6 {
    public sta
    try {
        Sca
    System.
        int
        int
        Son
    System.o
    son is
    } catch
        Syst
    }
    catch
        S
    }
    catch
    }
}
}
```

```
class Son extends Father{
    int son_age;
Son (int x, int y) throws AgeException, WrongAgeException{
    super(x);
    son_age = y;
  if (son_age<0){
    throw new WrongAgeException();
  }
 }
}
class Lab_6{
   public static void main (String[] args){
    try{
       Scanner s = new Scanner (System.in);
   System.out.println("Enter father's and son's age");
     int x = s.nextInt();
     int y = s.nextInt();
     Son so = new Son(x,y);
   System.out.println("Father is %d years old and
   son is %d years old", so.father_age, so.son_age);
  } catch (WrongAgeException wa){
     System.out.println(wa);
  }
   catch (AgeException a){
       System.out.println(a);
   }
   catch (Exception e){
       System.out.println("Enter valid values");
   }
  }
}
```

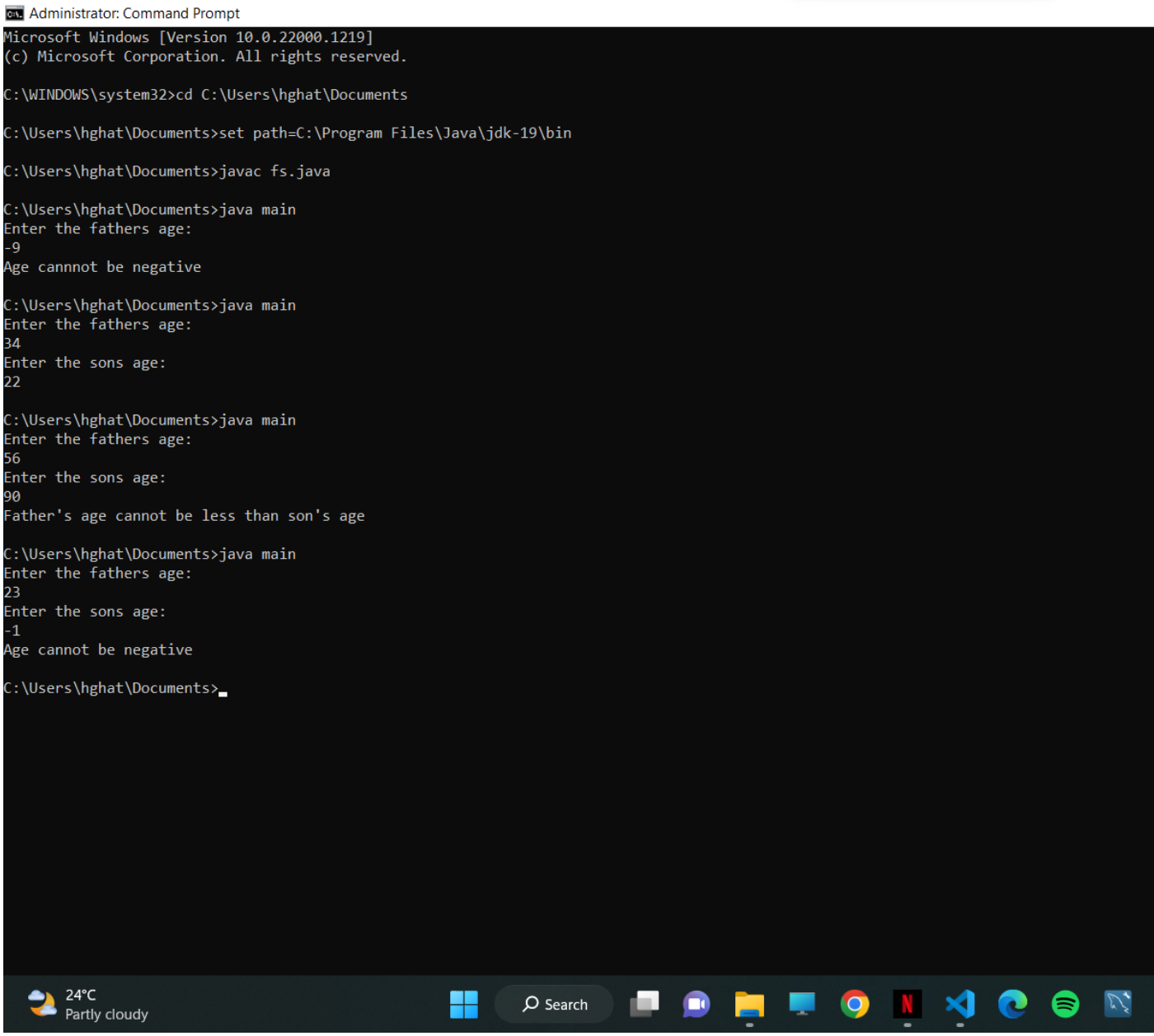
Output:-

Enter father and son's ages
-50 24
Entered age is negative

Enter father and son's age
20 50
Age entered of the son is greater than that of the father

Enter father and son's age
50 24
Father is 50 years old and son is 24 years old.

6/1/23


Administrator: Command Prompt
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.
C:\WINDOWS\system32>cd C:\Users\hghat\Documents
C:\Users\hghat\Documents>set path=C:\Program Files\Java\jdk-19\bin
C:\Users\hghat\Documents>javac fs.java
C:\Users\hghat\Documents>java main
Enter the fathers age:
-9
Age cannnot be negative
C:\Users\hghat\Documents>java main
Enter the fathers age:
34
Enter the sons age:
22
C:\Users\hghat\Documents>java main
Enter the fathers age:
56
Enter the sons age:
90
Father's age cannot be less than son's age
C:\Users\hghat\Documents>java main
Enter the fathers age:
23
Enter the sons age:
-1
Age cannot be negative
C:\Users\hghat\Documents>
24°C
Partly cloudy
Search