19BIT0292

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JAVA PROGRAMMING

DIGITAL ASSIGNMENT

CODE

```
/*
 * To change this license header, choose License
Headers in Project Properties.
 * To change this template file, choose Tools |
Templates
 * and open the template in the editor.
 */
package javafxapplication1;

import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.ComboBox;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.layout.HBox;
import javafx.scene.layout.StackPane;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;


/**
 *
 * @author bhaum
 */
public class JavaFXApplication1 extends
Application {
```

```
    int po(int a,int b)
    {
        int r=1;
        for(int i=0;i<b;i++)
            r*=a;
        return r;
    }
    int fi(int n)
    {
        if(n<=1)
            return n;
        return fi(n-1)+fi(n-2);
    }
    int cal(int b,int c,char ch)
    {
        int e;
        switch(ch)
{
case '+':
e=b+c;
break;
case '*':
e=b*c;
break;
case '/':
e=b/c;
break;
case '%':
e=b%c;
break;
case '-':
e=b-c;
break;
case '^':
```

```
e=po(b,c);
break;
default:
e=0;
}
return e;
}


  Scene scene1,scene2,sce;
  void s2()
  {
      Label lj=new Label("Enter the number");
TextField t1=new TextField("ONLY NATURAL NUMBERS
ALLOWED");
Button b1=new Button("Click");
Label lp=new Label();
VBox r=new VBox();
r.getChildren().add(lj);
r.getChildren().add(t1);
r.getChildren().add(b1);
r.getChildren().add(lp);
b1.setOnAction(e->{
    try{
int re=fi(Integer.parseInt(t1.getText()));
lp.setText("Answer: " +re);
    }
    catch(Exception ek)
    {
        lp.setText("Invalid input");
    }
}
);
 scene2=new Scene(r,300,300);
```

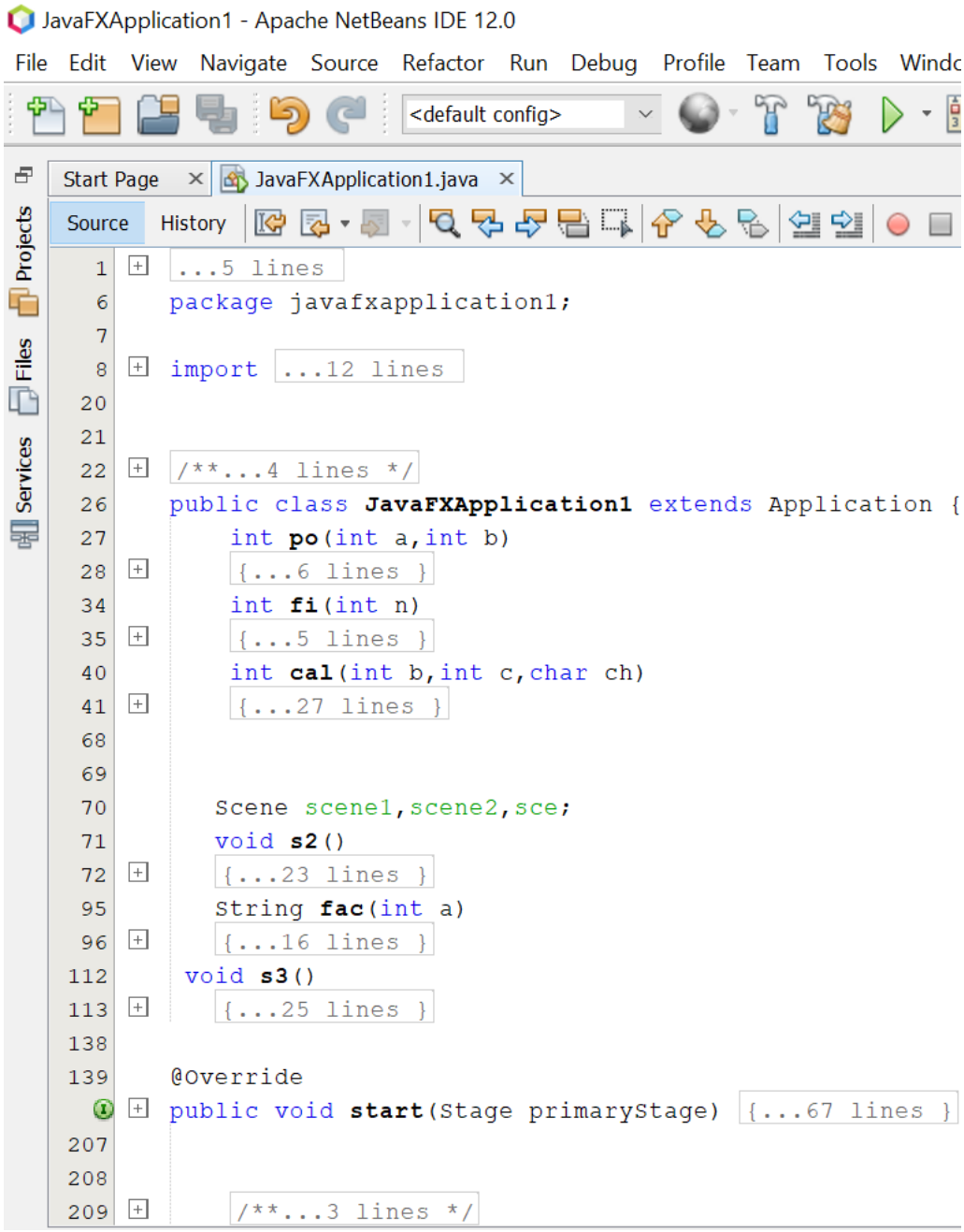
```
    }
    String fac(int a)
    {
        String s="";
        String p=" are ",sf="s";
        for(int i=2;i<=a/2;i++)
        if(a%i==0)
            s+=", "+i;
        if(s=="")
            return a+" is a prime number";
        if(s.length()==3)
        {
            p=" is ";
            sf="";
        }
       s=s.substring(1,s.length());
       return "Factor"+sf+" of "+a+p+":"+s;
    }
 void s3()
    {
 Label lj=new Label("Enter the number");
 TextField t1=new TextField("ONLY NUMBERS GREATER
THAN 2 ALLOWED");
 Button b1=new Button("Click");
 Label lp=new Label();
 VBox r=new VBox();
 r.getChildren().add(lj);
 r.getChildren().add(t1);
 r.getChildren().add(b1);
 r.getChildren().add(lp);
 b1.setOnAction(e->{
     try{
 int re=Integer.parseInt(t1.getText());
 if(re<=2)
```

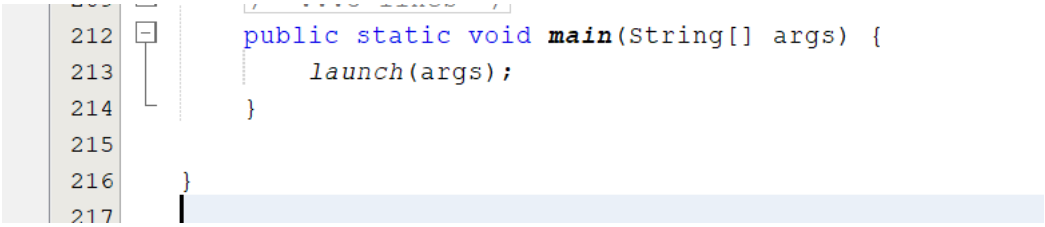
```
    throw new Exception();
 lp.setText(fac(re));
    }
    catch(Exception ek)
    {
        lp.setText("Invalid Input");
    }
 }
 );
  sce=new Scene(r,300,300);
   }

@Override
public void start(Stage primaryStage) {

primaryStage.setTitle("19BIT0292");
 Label l=new Label("Select your choice:");
 Label lj=new Label("Enter the first value");
 TextField t1=new TextField("First value here");
 Label lj2=new Label("Enter the second value");
 TextField t12=new TextField("Second value here");
 Label lj3=new Label("Enter the operation to be
performed");
 TextField t13=new TextField("% / + - * ^");
 Button b1=new Button("Click");
 Label lp=new Label();
 VBox r=new VBox();
 r.getChildren().add(lj);
 r.getChildren().add(t1);
 r.getChildren().add(lj2);
 r.getChildren().add(t12);
 r.getChildren().add(lj3);
 r.getChildren().add(t13);
 r.getChildren().add(b1);
```

```
 r.getChildren().add(lp);
 b1.setOnAction(e->{
     try{
 int
re=cal(Integer.parseInt(t1.getText()),Integer.pars
eInt(t12.getText()),t13.getText().charAt(0));
 lp.setText("Answer:" +re);
     }
     catch(Exception ek)
     {
         lp.setText("Invalid input");
     }
 }
 );
 Scene s=new Scene(r,300,200);
ComboBox comboBox = new ComboBox();
 comboBox.getItems().add("Calculator");
 comboBox.getItems().add("Fibonacci number");
 comboBox.getItems().add("Factors");
 Button butto1= new Button("Submit");
 s2();
 s3();
   EventHandler<ActionEvent> event = new
EventHandler<ActionEvent>() {
            public void handle(ActionEvent e)
            {
                String a=""+comboBox.getValue();
                switch(a)
                {
                    case "Calculator":
                        primaryStage.setScene(s);
                        break;
                    case "Fibonacci number":
```

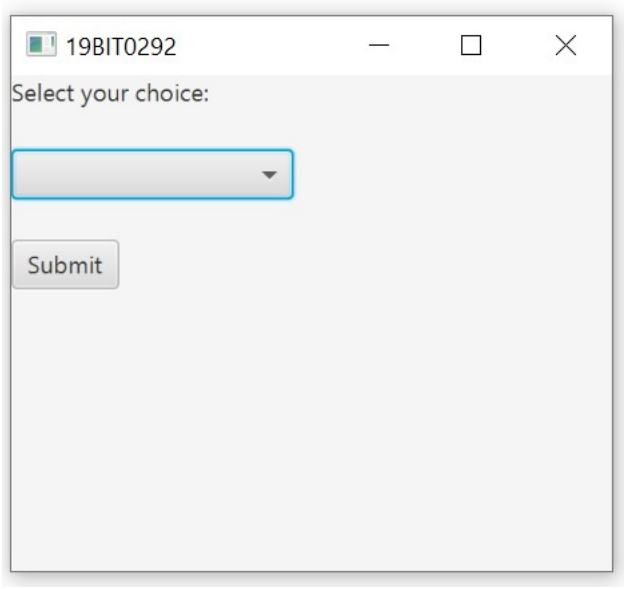
```
primaryStage.setScene(scene2);
                        break;
                    case "Factors":

primaryStage.setScene(sce);
                        break;
                }
            }
        };
 butto1.setOnAction(event);
  HBox hbox = new HBox(comboBox);
 VBox layot1 = new VBox(20);
 layot1.getChildren().addAll(l,hbox,butto1);
 scene1= new Scene(layot1,300,250);
 primaryStage.setScene(scene1);
 primaryStage.show();

}


    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        launch(args);
    }

}
```

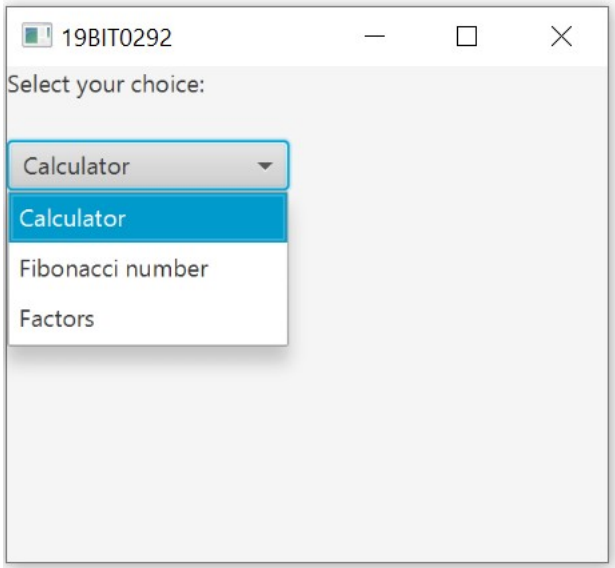
SCREEN SHOT

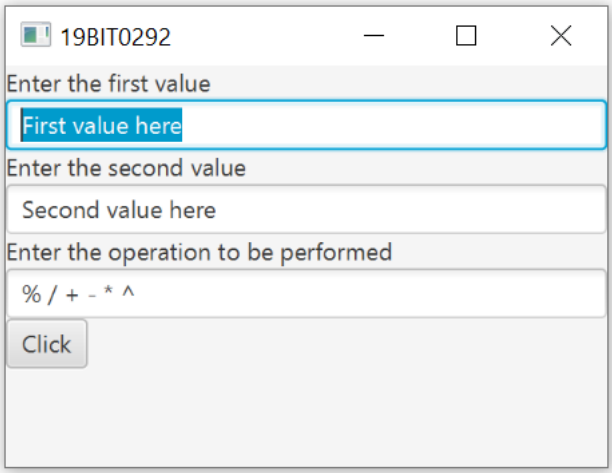

JavaFXApplication1 - Apache NetBeans IDE 12.0
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Windc
<default config>
Start Page
JavaFXApplication1.java
Source History
Projects
Files
Services
...5 lines
package javafxapplication1;
import ...12 lines
/**...4 lines */
public class JavaFXApplication1 extends Application {
int po(int a,int b)
{...6 lines }
int fi(int n)
{...5 lines }
int cal(int b,int c,char ch)
{...27 lines }
Scene scene1,scene2,sce;
void s2()
{...23 lines }
String fac(int a)
{...16 lines }
void s3()
{...25 lines }
@Override
public void start(Stage primaryStage) {...67 lines }
/**...3 lines */

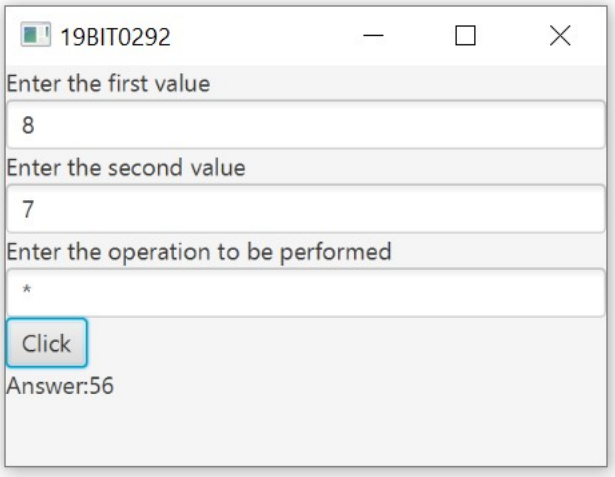

public static void main(String[] args) {
launch(args);
}
}

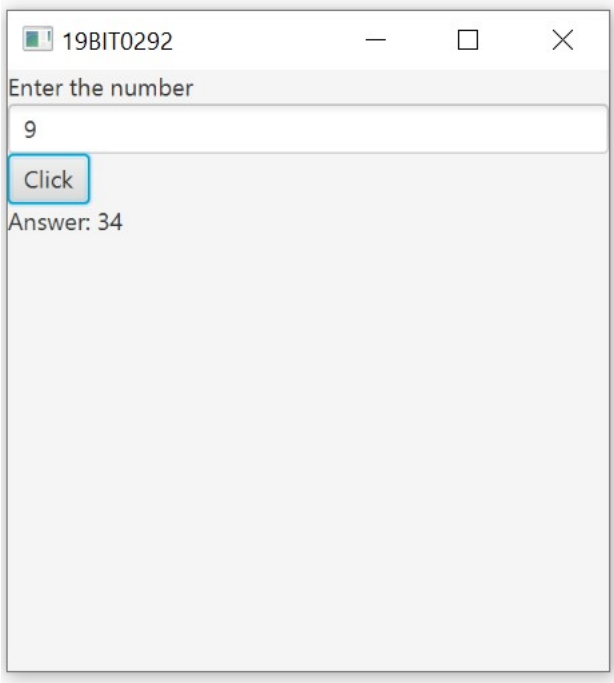
OUTPUT

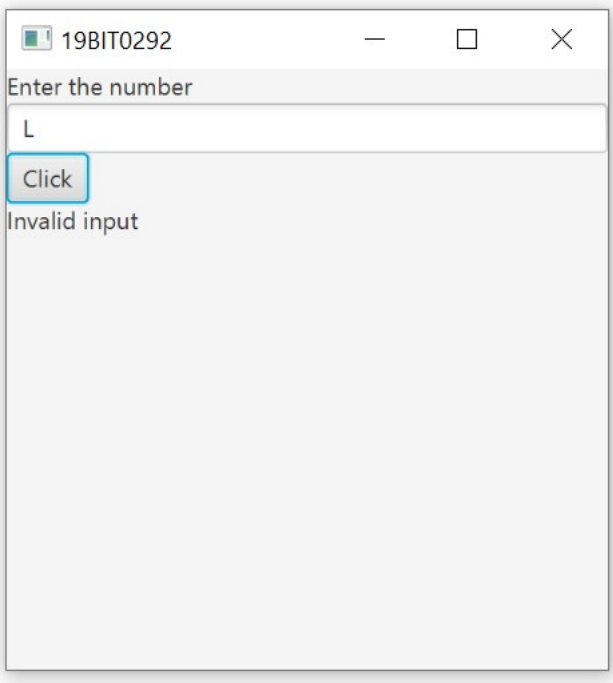

19BIT0292
Select your choice:
Submit

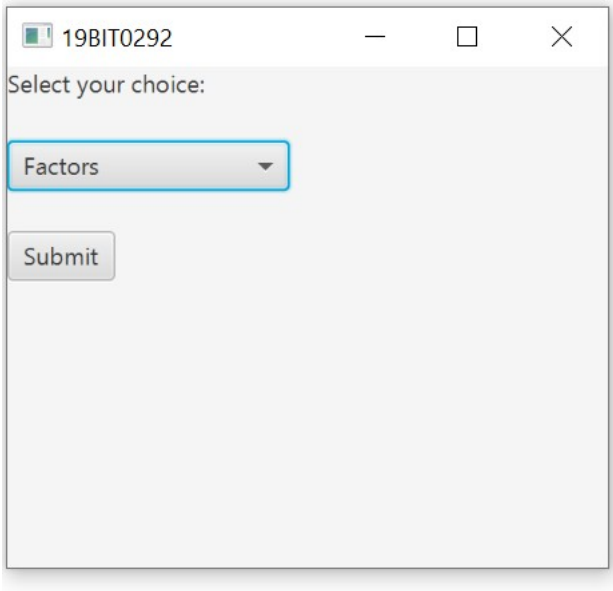

19BIT0292
Select your choice:
Calculator
Calculator
Fibonacci number
Factors

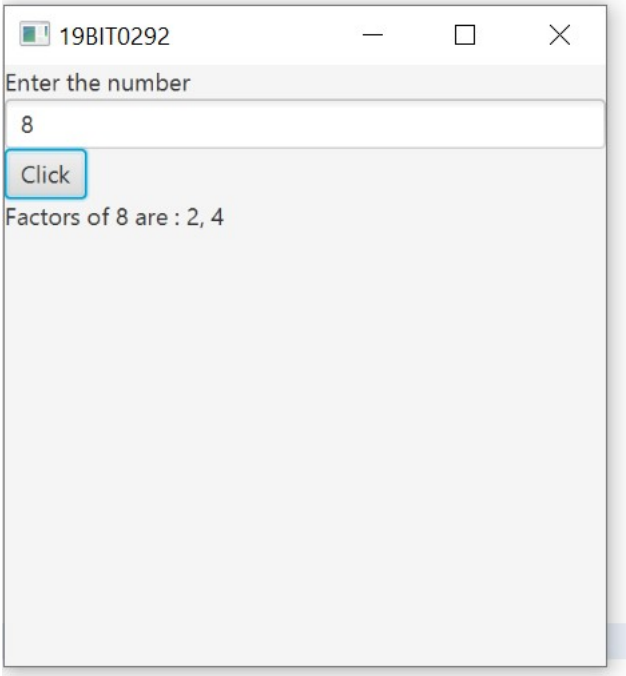

19BIT0292
Enter the first value
First value here
Enter the second value
Second value here
Enter the operation to be performed
% / + - * ^
Click

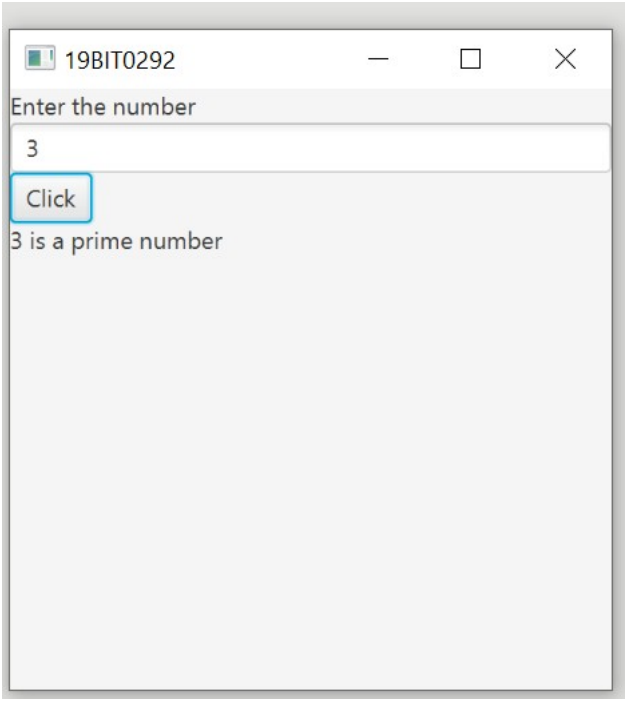

19BIT0292
Enter the first value
8
Enter the second value
7
Enter the operation to be performed
*
Click
Answer:56

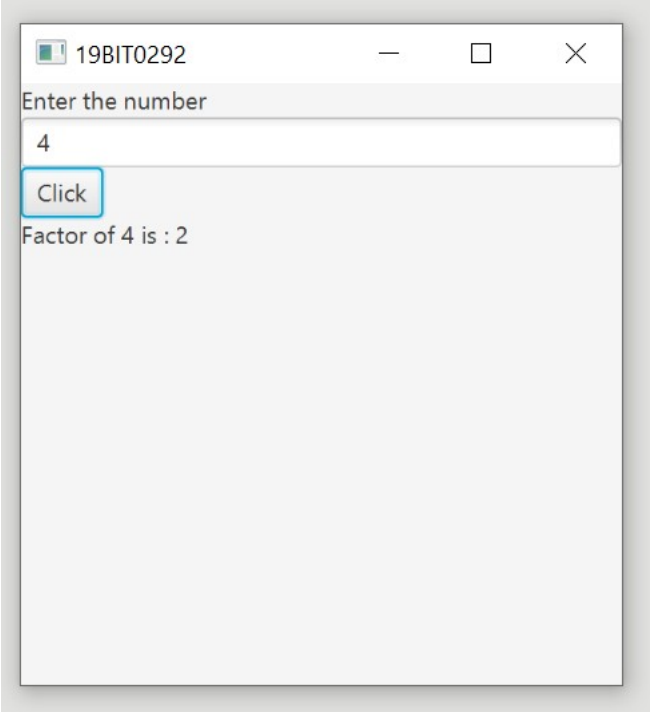

19BIT0292
Enter the number
9
Click
Answer: 34


19BIT0292
Enter the number
L
Click
Invalid input









LINK FOR THE VIDEO AND SOURCE CODE

https://drive.google.com/drive/folders/1Fuvprb77H5hihUeM2eUPBp2Rp-34Y7aH?usp=sharing

(only accessible by vit email address)