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with Ada.Exceptions;
with Ada.Long_Long_Float_Text_IO;

with Gnoga.Application.Singleton;
with Gnoga.Gui.Window;
with Gnoga.Gui.View;
with Gnoga.Gui.Base;
with Gnoga.Gui.Element.Common;
with Gnoga.Gui.Element.Form;

procedure hello is
  Main_Window      : Gnoga.Gui.Window.Window_Type;
  Main_View        : Gnoga.Gui.View.View_Type;
  Quit_Button      : Gnoga.Gui.Element.Common.Button_Type;
  Fact_Form        : Gnoga.Gui.Element.Form.Form_Type;
  Input_Text       : Gnoga.Gui.Element.Form.Text_Type;
  Question_Label   : Gnoga.Gui.Element.Form.Label_Type;
  Fact_Button      : Gnoga.Gui.Element.Common.Button_Type;
  Result_Label     : Gnoga.Gui.Element.Common.DIV_Type;
  Dec_Check_Box    : Gnoga.Gui.Element.Form.Check_Box_Type;
  Dec_Label        : Gnoga.Gui.Element.Form.Label_Type;
  Dec_Range        : Gnoga.Gui.Element.Form.Range_Type;
  Dec_Range_Label  : Gnoga.Gui.Element.Form.Label_Type;
  Dec_Value_Label  : Gnoga.Gui.Element.Form.Label_Type;

  procedure On_Quit (Object : in out Gnoga.Gui.Base.Base_Type'Class) is
    pragma Unreferenced (Object);
  begin
    Gnoga.Application.Singleton.End_Application;
  end On_Quit;

  procedure On_Factorial (Object : in out Gnoga.Gui.Base.Base_Type'Class) is
    pragma Unreferenced (Object);
    function Factorielle (N : Natural) return Long_Long_Integer is
      F : Long_Long_Integer := 1;
    begin
      for I in 2 .. N loop
        F := F * Long_Long_Integer (I);
      end loop;
      return F;
    end Factorielle;
    function Factorielle (N : Natural) return String is
      F : Long_Long_Float := 1.0;
      S : String (1 .. 20);
    begin
      for I in 2 .. N loop
        F := F * Long_Long_Float (I);
      end loop;
      Ada.Long_Long_Float_Text_IO.Put (S, F, Dec_Range.Value, 6);
      return S;
    end Factorielle;
  begin
    if not Dec_Check_Box.Checked then
      Result_Label.Text
        ("Résultat " &
         Input_Text.Value &
         "! = " &
         Long_Long_Integer'Image (Factorielle (Natural'Value (Input_Text.Value))));
    else
      Result_Label.Text
        ("Résultat " &
         Input_Text.Value &
         "! = " &
         Factorielle (Natural'Value (Input_Text.Value)));
    end if;
  exception
    when others =>
      Result_Label.Text ("Erreur !");
  end On_Factorial;
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procedure Dec_Range_Change (Element : in out Gnoga.Gui.Base.Base_Type'Class) is
  pragma Unreferenced (Element);
begin
  Dec_Value_Label.Text (Dec_Range.Value);
end Dec_Range_Change;

procedure On_Dec_Change (Element : in out Gnoga.Gui.Base.Base_Type'Class) is
  pragma Unreferenced (Element);
begin
  Dec_Range.Disabled (not Dec_Check_Box.Checked);
end On_Dec_Change;

begin
  Gnoga.Application.Title ("hello");
  Gnoga.Application.HTML_On_Close ("Connection to Application has been terminated");

  Gnoga.Application.Open_URL ("http://127.0.0.1:8080");
  Gnoga.Application.Singleton.Initialize (Main_Window, Port => 8080);

  Main_View.Create (Main_Window);
  Quit_Button.Create (Main_View, "Quitter");
  Quit_Button.On_Click_Handler (On_Quit'Unrestricted_Access);
  Fact_Form.Create (Main_View);
  Input_Text.Create (Fact_Form, 40);
  Input_Text.Place_Holder ("nombre entier");
  Input_Text.Pattern ("[0-9]+");
  Input_Text.Focus;
  Question_Label.Create (Fact_Form, Input_Text, "Saisir un nombre entier : ");
  Fact_Form.New_Line;
  Dec_Check_Box.Create (Fact_Form);
  Dec_Check_Box.On_Change_Handler (On_Dec_Change'Unrestricted_Access);
  Dec_Label.Create (Fact_Form, Dec_Check_Box, " Calcul décimal", False);
  Fact_Form.New_Line;
  Dec_Range.Create (Fact_Form);
  Dec_Range.Minimum (0);
  Dec_Range.Maximum (10);
  Dec_Range.Value (0);
  Dec_Range.Disabled;
  Dec_Value_Label.Create (Fact_Form, Dec_Range, "0", False);
  Dec_Range_Label.Create (Fact_Form, Dec_Range, " décimale(s)", False);
  Dec_Range.On_Change_Handler (Dec_Range_Change'Unrestricted_Access);
  Main_View.Put_Line ("Calcul de factorielle :");
  Fact_Button.Create (Main_View, "Calcul");
  Fact_Button.On_Click_Handler (On_Factorial'Unrestricted_Access);
  Fact_Form.On_Submit_Handler (On_Factorial'Unrestricted_Access);
  Result_Label.Create (Main_View);

  Gnoga.Application.Singleton.Message_Loop;
exception
  when E : others =>
    Gnoga.Log (Ada.Exceptions.Exception_Name (E) & " - " & Ada.Exceptions.Exception_Message (E)
end hello;
```