unit Unit1;

interface

uses

Winapi.Windows, Winapi.Messages, System.SysUtils, System.Variants,

System.Classes, Vcl.Graphics,

Vcl.Controls, Vcl.Forms, Vcl.Dialogs, Vcl.StdCtrls, Vcl.ComCtrls;

type

TForm1 = class(TForm)

TreeView1: TTreeView;

Button1: TButton;

Label4: TLabel;

Edit1: TEdit;

Label1: TLabel;

Memo1: TMemo;

procedure Button1Click(Sender: TObject);

procedure FormShow(Sender: TObject);

private

{ Private declarations }

public

{ Public declarations }

end;

TData = Integer;

TPNode = ^TNode;

TreePointer = ^TPNode;

PPNode = ^TPNode;

iPointer = ^Integer;

TNode = record

Data: TData; // data

PLeft: TPNode; // left

PRight: TPNode; // right

end;

var

Form1: TForm1;

PTree : TPNode;

PTree2 : TPNode;

implementation

{$R \*.dfm}

procedure FibonTreeBuild(k:integer; T:TPNode);

begin

if (k = 0) then

begin

T:= nil;

Form1.Memo1.Lines.Add(inttostr(1));

end

else if (k = 1) then

begin

new(T);

T^.Data := k;

T^.PLeft := nil;

T^.PRight := nil;

Form1.Memo1.Lines.Add(inttostr(2));

end

else

begin

new(T);

T^.Data := k;

FibonTreeBuild(k - 1, (T^.PLeft));

FibonTreeBuild(k - 2, (T^.PRight));

Form1.Memo1.Lines.Add(inttostr(3));

end;

end;

procedure PrintTree(treenode:TTreeNode; root:TPNode);

var newnode : TTreeNode;

begin

if Assigned(root) then

begin

newnode := Form1.TreeView1.Items.AddChild(treenode, IntToStr(root^.Data));

PrintTree(newnode, root^.PLeft);

PrintTree(newnode, root^.PRight);

end

else

newnode := Form1.TreeView1.Items.AddChild(treenode, '--');

end;

procedure TForm1.Button1Click(Sender: TObject);

var

i, k: integer;

begin

i := 1;

k := strtoint(Edit1.Text);

FibonTreeBuild(k, PTree);

PrintTree(nil, PTree);

end;

procedure TForm1.FormShow(Sender: TObject);

begin

PTree := nil;

end;

end.