

QUESTION/VRAAG 3**(37 marks/punte)**

3.1	Initialise row counter	1
	Check if file exist and error message	1
	Assignfile and reset	1
	Readln	1
	Initialise column counter	1
	Increase row counter	1
	Loop	1
	Assign ticket numbers to array	2
3.2	For row loop	1
	For col loop	1
	Display array in stringgrid	1
3.3	Initialise counter	1
	For loops	1
	If statement to see if a ticket has been sold	1
	Increase counter if true	1
	Display how many tickets have been sold	1
3.4	Random(230) + 1	1
	For loops	1
	If ticket number = random number, then display in listbox	2
	Increase counter	1
	Repeat until counter = 10	1
3.5	Initialise variables	2
	For loops	1
	If a ticket was sold increase counter	2
	If it is more than previous values, then assign highest to max and remember which row	3
	Display the child's name who sold the most tickets	1
3.6	Calculate amount	1
	Calculate amount to be donated	1
	Display amount and donated amount	2
	Rounded to two decimal places	1

POSSIBLE SOLUTION

```
unit Question3_u;
```

```
interface
```

```
uses
```

```
Windows, Messages, SysUtils, Variants, Classes, Graphics, Controls, Forms,  
Dialogs, Grids, StdCtrls;
```

```
type
```

```
TForm1 = class(TForm)
```

```
...
```

```
end;
```

```
var
```

```
Form1: TForm1;
```

```
ar2tickets : array[1..23,1..10] of integer;
```

```
iticketssold : integer;
```

```
const
```

```
arrrnames : array[1..23] of string = ('Jack','Sarah','Ben','Lily','Jocelyn','Adrian',  
                                     'Anathi','Anita','Ashwin','Peter','Chloe','Jeff','Nathi',  
                                     'Wandile','Kerry','Sethu','Caryn','Nicola','Phila',  
                                     'Lindelwa','Kevin','Alex','Rebekka');
```

```
implementation
```

```
{ $R *.dfm }
```

```
procedure TForm1.FormCreate(Sender: TObject);
```

```
var
```

```
irow : integer;
```

```
begin
```

```
for irow := 1 to 23 do
```

```
    stringgrid1.cells[0,irow-1] := arrnames[irow];
```

```
end;
```

```
procedure TForm1.Button1Click(Sender: TObject);
```

```
var
```

```
irow,icol,ipos : integer;
```

```
myfile : textfile;
```

```
soneline : string;
```

```
begin
```

```
irow := 0; ✓
```

```
if fileexists('Tickets.txt') <> true then
```

```
begin
```

```
    ShowMessage('File does not exist'); ✓
```

```
    Exit;
```

```
end;
```

```
Assignfile(myfile, 'Tickets.txt'); ✓
```

```
Reset(myfile);
```

```
while not eof(myfile) do
```

```
begin
```

```
readln(myfile, soneline); ✓  
icol := 0; ✓  
inc(irow); ✓  
ipos := pos(',',soneline);  
while ipos <> 0 do ✓  
  begin  
    inc(icol);  
    ar2tickets[irow,icol] := strtoint(copy(soneline,1,ipos-1)); ✓✓  
    delete(soneline,1,ipos);  
    ipos := pos(',',soneline);  
  end;  
end;  
closefile(myfile);
```

```
end;
```

```
procedure TForm1.Button2Click(Sender: TObject);  
var  
  irow, icol : integer;  
begin  
  for irow := 1 to 23 do ✓  
    for icol := 1 to 10 do ✓  
      stringgrid1.cells[icol,irow-1] := inttostr(ar2tickets[irow,icol]); ✓  
    end;  
end;
```

```
procedure TForm1.Button3Click(Sender: TObject);  
var  
  irow, icol : integer;  
begin  
  iticketssold := 0; ✓  
  for irow := 1 to 23 do ✓  
    for icol := 1 to 10 do  
      if ar2tickets[irow,icol] > 0 then ✓  
        inc(iticketssold); ✓  
      ShowMessage(inttostr(iticketssold) + ' tickets sold'); ✓  
    end;  
end;
```

```
procedure TForm1.Button4Click(Sender: TObject);  
var  
  iran, irow, icol, idraws : integer;  
begin  
  randomize;  
  repeat  
    iran := random(230) + 1; ✓  
    for irow := 1 to 23 do ✓  
      begin  
        for icol := 1 to 10 do  
          begin  
            if ar2tickets[irow,icol] = iran then ✓  
              begin  
                listbox1.Items.add(inttostr(iran)) ✓;  
                inc(idraws); ✓  
              end  
            end  
          end;  
        end;  
      end;  
    end;  
  end;
```

```
    end;
    until idraws = 10; ✓
end;

procedure TForm1.Button5Click(Sender: TObject);
var
    imax, irow,icol,ihighest,ichild : integer;

begin
    imax := 0; ✓
    for irow := 1 to 23 do ✓
        begin
            ihighest := 0; ✓
            for icol := 1 to 10 do
                begin
                    if ar2tickets[irow,icol] <> 0 then ✓
                        inc(ihighest); ✓
                    end;
                    if ihighest > imax then ✓
                        begin
                            imax := ihighest; ✓
                            ichild := irow; ✓
                        end;
                    end;
                end;
            ShowMessage(stringgrid1.cells[0,ichild-1] + ' sold the most tickets'); ✓
        end;
    end;

procedure TForm1.Button6Click(Sender: TObject);
var
    ramount, rdonate : real;

begin
    ramount := iticketssold * 25; ✓
    rdonate := 40/100*ramount; ✓
    ShowMessage('Total Amount Raised '+floattostrf(ramount, fffixed,8,2)); ✓
    ShowMessage('Total Amount Donated '+floattostrf(rdonate, fffixed,8,2)) ✓✓
end;

end.
```