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MCQs

1. Every _____ is represented by an event-object.
Information
Entity
Object
Event page10
2. "Situation" is an event occurrence that requires a (n) _____.
Reaction page 10
Class
Object
Action
3. Events can be _____.
Specialized
All of the given options page 15
Composed
Generalized
4. A (n) _____is a subscription mechanism for events.
Raw Event
Event Stream
Event Channel page 13
Event Producer
7. The default constructor initializes the integers with _____ value.
Empty
NULL
Zero (0)
One (1)

8. Which statement is True about interfaces?
An interface can contain only methods, variables, events, and indexers.
An interface can contain only variables, properties, events, and indexers.
An interface can contain only methods, properties, variables, and indexers.
An interface can contain only methods, properties, events, and indexers. Page 40
9. Not implementing some methods of the interface in the class is _____.
An error page40
Acceptable
A warning
An exception
10. Which one is the correct syntax for declaring attribute?
[Obsolete] page 48
{Obsolete}
(Obsolete)
*Obsolete
11. _____ Method is used to move the file from one directory to another.
Move page 63
Export
Import
None of given options
12. Unlike type converters, however, markup extensions are invoked from XAML with _____.
Bridge assemblies
Wrapper code
Explicit and consistent syntax page 73
None of the given options
13. An "object" element can have _____ type/s of children.
Four
Three Page 73
Two
One
14. Which of the following grabs the “OK” button by only knowing its name?
Button okButton = (Button)window.GetName("okButton")
Button okButton = (Button)window.getElementByName("okButton")
Button okButton = (Button)window.FindName("okButton") page 76
Button okButton = (Button)window.GetButton("okButton")
15. The only _____ .Net language has an intrinsic understanding of dependency properties.
Vb.net
C#
J#
Xaml page 83

16. There is/are ____ type(s) of padding in WPF element.
One
Two
Three page 91
Four
17. If we require to set components in table (column and row) format, then which panel will be used?
StackPanel
Grid page 104
TabPanel
DockPanel
18. What is the default value of "RowSpan" property of "Dockpanel"?
3
2
1 page 104
0
19. What is the default value of "ColumnSpan" property of "Dockpanel"?
2
1 page 104
0
3
20. An "UIElement" receives mouse events only if "IsHitTestVisible" is _____.
0
False
Null page 121
True

2. A (n) _____ is a set of associated events.
Event Consumer
Event Producer
Event Stream Page 14
Event Channel
3. Which of the following is not a feature of "C#"?
Operator overloading is not allowed. Page 17
Multiple Inheritances is not supported but interfaces are supported.
Enumeration members are scoped.
Global variables or functions are not allowed.
4. "Console" is a/an _____ class in the "System" namespace.
Virtual
Input
Static page 18
Dynamic

8. Identify the Correct statement?
"Struct" can add methods like interfaces and can be called in exactly the same way.
"Interfaces" can add methods like classes and can be called in exactly the same way.
"Struct" can add methods like classes and can be called in exactly the same way. Page39
"Struct" cannot add methods like classes and cannot call in exactly the same way.
9. There is/are _____ type/s of parameter/s for attributes.
Four (4)
Three (3) page 36
One (1)
Two (2)
10. XML document is readable by _____.
No one
Machine and Human both page 54
Human only
Machine only
12. The corresponding type converter class for "Brush" class will be _____.
BrushConverter
CastBrush
BrushCast
None of the given options
13. Compiling XAML involves _____ step(s).
Three page 76
Two
One
Four
14. One of the key goals of WPF and XAML is the separation of _____.
None of the given options page 70
Events from event handlers
Methods from properties
Design elements from implementation
15, One of the ways to create an instance of a class is _____.
System array page18
Factory method
Sequential heap
XAML compiler
16. Which property will be used if we want to restrict the user to don't increase the width of a WPF element from a specific amount?
MaxWidth page 91
MaximumWidth
WidthMaximum
None of given options

17. Which "transform" property can help us to flip the element from its center?
ScaleY
None of given options
ScaleX
RenderTransformOrigin page 126
19. By convention "tunneling event" names are prefixed with _____ and just come_____ the bubbling event occurs.
View, after
View, before
Preview, before page 117
Preview, after
20. Stylus can behave like a _____ but has _____resolution.
Keyboard, lower
Mouse, lower
Mouse, higher page 122
Keyboard, higher
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Object
Event page10
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Wrapper code
Explicit and consistent syntax page73
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8. Identify the Correct statement?
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"Struct" cannot add methods like classes and cannot call in exactly the same way.

12. The corresponding type converter class for "Brush" class will be _____.
BrushConverter page 149
CastBrush
BrushCast
None of the given options
19. By convention "tunneling event" names are prefixed with _____ and just come_____ the bubbling event occurs.
View, after
View, before
Preview, before
Preview, after
20. Stylus can behave like a _____ but has _____resolution.
Keyboard, lower
Mouse, lower
Mouse, higher
Keyboard, higher
2. CLI stands for _____.
Compact Language Infrastructure
Common Language Infrastructure page18
Console Language Infrastructure
Control Language Infrastructure
3. The elements in a/an _____ are always stored in a contiguous block of memory.
Tree
Array
Variable
Struct
5. The _____ statement iterates over each element in an "enumerable" object.
Foreach page 191
Dowhile
While
For
8. You can handle multiple exception types with multiple _____ clauses.
Throw
Finally
Catch
Try
9. A _____ block has access to an "Exception" object, that contains information about the error.
Throw page 46
Catch
Try
Finally

10. Attributes are declared _____ the class/function.
Within
After
Above
Outside
13. Whenever an attribute value is enclosed in curly braces "{}", the XAML compiler/parser treats it as a/an _____ rather than a/an _____.
Markup event, property
Markup property, Event
Literal string, Markup extension value
Markup extension value, literal string page 73
16. If we want that "Stretch" property of child element takes the available "height or width of parent" and shape of child element doesn't change, then we should write "Stretch = _____".
1
Fill page 109
UniformToFill
Uniform
18. Which of the following is Not a routing strategy?
Tunneling
Indirect page 117
Bubbling
Direct
19. We are checking that whether an element is eligible for focus or not, which property will help us in this testing?
Focus
IsFocus
IsFocusable
Focusable page 121
2. A (n) _____ is a component of the structure of an event.
Event Attribute page 15
Event Request
Event Response
Event Architecture
3. In C#, comments are written using _____.
and */ /*
// and /* */ page18
and /*
// and */ /*

4. C# is most often used with some implementation of the _____.
Compact Language Interface
Control Language Infrastructure
Control Language Interface
Common Language Infrastructure page 18
11. Directory is the class of _____.
System.Collections.Generic
System.Reflection
System.Text
System.IO
12.. In Visual Studio 2012, expression blend is _____ WPF feature.
80%
100%
90%
70%
13. For which of the following, WPF does not provide any type converter?
Color
Point
None of the given options Page 72
FontWeight
17. We have two buttons "b1" and "b2". If we want to place "b1" on "b2" then value of "ZIndex" of "b1" should be _____ the value of "ZIndex" of "b2".
Less than
Greater than
Equal to
No need to give value of ZIndex of b1 page99
19. Routed events are like _____ on top of .Net properties.
Event properties
Layer
Properties
Dependency properties page 116
20. _____helps apps remain oblivious to the visual tree.
Routed Events
Input Events page 116
Output Events
Obvious Events
1._____ events may or may not relate to an actual occurrence
Probabilistic page 07
Event properties
Layer
Properties

2. _____where multiple GUI elements and many sources of events exist.

Visual programming page 08

Event properties

Control Language Interface

Content property

3. Event-based programming, also called_____.

Event-driven architecture page 10

Event properties

Layer

Output Events

4. The common type system of C# has _____ types and_____types.

Value, reference page 14

Pointer, reference

Values, Pointer

5. Methods are _____that operate on data.

Algorithms page 37

Variable

Pointer

Function

6. When your C# program is compiled, it creates a file called a/an_____, which is normally an executable or DLL library.

C++

Assembly page 41

Text

BIOS

7. Attribute parameters can be either _____parameters or named parameters.

Function

Method

Value

Positional page 43

Subjective

21. What is the biggest feature of a dependency property?

ANS: dependency property and then see its benefits on top of .net properties. Change notification, property value inheritance, and support for multiple providers are key features.

22. How can we know which cells are directly affected by the resizing of "GridSplitters"?

Ans: Which cells are a↵ected depends on GridSplitters alignment values. Default horizontalalignment=right and verticalalignment=stretch. Reasonable use requires stretch in one dimension.

23. Name the types of children that an "object" element can have.

Ana: An object element can have three types of children: a value for a content property, collection items, or a value that can be type-converted to the object element. Designated property is the content property.

24. Why "Grid" panel is the best choice for most complex layout scenarios?

Ans: IsSharedScope because sizegroups can be shared across multiple grids. All uses must be under a common parent with issharedscope set to true. It is an attached property of grid as well.

Grid is usually the best choice. Except wraping, it can do what most panels do.

25. Write the XAML code to create a "DockPanel" having four (4) buttons with dock settings i.e. Top, Left, Right and Bottom.

Ans: HO Page 111

26. Define "Markup Extensions" with an example of Rectangle, which simply sets the Background property to null.

Ans: Markup extensions, like type converters, enable you to extend the expressiveness of XAML. Both can evaluate a string attribute value at runtime (except for a few built-in markup extensions for performance reasons) and produce an appropriate object based on the string. As with type converters, WPF ships with several markup extensions built in.

21. In WPF, how user interfaces are constructed?

Ans: WPF enables polished user interfaces which are getting a lot of attention. It enables rapid iterations and major interface changes throughout the development process. It allows to keep user interface description and implementation separate.

23. Can BAML be decompiled back into XAML? Explain your answer with valid reason.

Ans: Yes, BAML can be converted back to XAML.

1 System.Uri uri = new System.Uri ("/ WpfApplication1;component/MyWindow.xaml", System.UriKind.Relative 2 Window window = (Window)Application.LoadComponent(uri);
3 string xaml = XamlWriter.Save(window);
There are di↵erent loading mechanisms. We can load from resource, identified by original xaml file, or actually integrated baml loaded.

21. Which term is used to refer to an object that derives from "UIElement" or "FrameworkElement"? 02

ANs: **Uielement3d** is the base class for all 3D visual objects with support for routed events, command binding, and focus.

Frameworkelement is the base class that adds support for styles, data binding, resources, and a few common mechanisms for Windows-based controls, such as tooltips and context menus.

22. Name the two (2) parameters of Handlers for routed events. 02

Ans: Handlers for routed events have a System.Object parameter (sender to which handler was attached), and System.eventargs, and source which is the logical tree element that originally raised the event and originalsource which is the element in visual tree that raised the event e.g. Textblock on top of a button. Routedevent, actual routed event object like Button.clickevent which is useful when same handler is used for multiple events.

23. Why one should care about "Logical Tree"? Explain with one example. 05

Ans: Logical tree exists even if there is no xaml. Properties, events, resources are tied to logical trees. Properties propagated down and events can be routed up or down the tree. Its a simplification of whats actually going on when rendered. Visual tree can be thought of as an extension of the logical tree though some things can be dropped as well. Visual tree exposes visual implementation details e.g. A listbox is a border, two scrollbars and more. Only things from visual or visual3d appear in a visual tree. Avoid depending on visual tree in your code.

<Window xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation" Title="About WPF 4 Unleashed" sizetocontent="widthandheight" Background="orangered">
<stackpanel>
<Label fontweight="Bold" fontsize="20" Foreground="White">WPF 4 Unleashed
</Label>
<Label>© 2010 SAMS Publishing
</Label>
<Label>Installed Chapters:

```
</Label>
<listbox>
<listboxitem>Chapter 1</listboxitem>
<listboxitem>Chapter 2</listboxitem>
</listbox>
<stackpanel Orientation="Horizontal" horizontalalignment="Center">
<Button minwidth="75" Margin="10">Help</Button>
<Button minwidth="75" Margin="10">OK</Button>
</stackpanel>
<statusbar>You have successfully registered this product.</statusbar>
</stackpanel>
</Window>
```

24. What are the two properties of type "Transform" that all FrameworkElements have? Also explain them. 03

Ans:

Transforms are from the base class System.Windows.Media.Transform. All framework elements have layouttransform and rendertransform. One applied before layout and one after. Uielements have rendertransformorigin.

frameworkelements have Height and Width properties of type double. Also have minheight, maxheight, minwidth, maxwidth. If explicit height width they takeprecedence when in range (avoid explicit). Min=0 and max=Infinity by default. Nan, Auto, Double.isnan mean size to content. Read only properties desiredsize, rendersize, actualheight, actualwidth. They are useful to act programatically on final size.

21. Why most WPF classes are inherently thread-unsafe?

Ans: Most WPF classes derive from dispatcherobject and are therefore inherently thread-unsafe. The Dispatcher part of the name refers to wpfs version of a Win32-like message loop,

Main Point

Event-driven architecture and service-driven architecture can also be compared. Event-based programming, also called event-driven architecture (EDA) is an architectural style in which one or more components in a software system execute in response to receiving one or more event notifications. Service-oriented architecture (SOA) is built from request-response. It moves away from monolithic applications. There are many similarities and often a component can provide both modes of contacting it. Here are some definitions from the book.

EVENT PRODUCER: An event producer is an entity at the edge of an event process- ing system that introduces events into the system.
EVENT CONSUMER: An event consumer is an entity at the edge of an event pro- cessing system that receives events from the system.
RAW EVENT: A raw event is an event that is introduced into an event processing system by an event producer.
DERIVED EVENT: A derived event is an event that is generated as a result of event processing that takes place inside an event processing system.
STATELESS EVENT PROCESSING An event processing agent is said to be stateless if the way it processes one event does not influence the way it processes any subsequent events.
EVENT STREAM An event stream (or stream) is a set of associated events. It is often a temporally totally ordered set (that is to say, there is a well-defined timestamp-based order to the events in the stream). A stream in which all the events must be of the same type is called a homogeneous event stream; a stream in which the events may be of different types is referred to as a heterogeneous event stream. Here are types of event agents.

Clean room design (also known as the Chinese wall technique) is the method of copying a design by reverse engineering and then recreating it without infringing any of the copyrights and trade secrets associated with the original design.

Some notable features of C#.

- No global variables or functions.
- Locals cannot shadow global variables.
- There is a strict boolean type.
- Memory address pointers can only be used in specifically marked "unsafe" blocks and require permissions
- No instruction to "free" memory. Only garbage collection.
- Try-finally block.
- No "multiple inheritance" but interfaces supported.
- Operator overloading allowed.
- More type-safe (only integer widening allowed).
- Enumeration members are scoped.
- Property syntax for getters and setters.
- No checked exceptions.
- Some functional programming features like function objects and lambda expressions.

Integer types in C#.

Type	Size (in bits)	Range
sbyte	8	-128 to 127
byte	8	0 to 255
short	16	-32768 to 32767
ushort	16	0 to 65535
int	32	-2147483648 to 2147483647
uint	32	0 to 4294967295
long	64	-9223372036854775808 to 9223372036854775807
ulong	64	0 to 18446744073709551615
char	16	0 to 65535

The floating point and decimal types in C#.

Type	Size (in bits)	precision	Range
float	32	7 digits	1.5×10^{-45} to 3.4×10^{38}
double	64	15-16 digits	5.0×10^{-324} to 1.7×10^{308}
decimal	128	28-29 decimal places	1.0×10^{-28} to 7.9×10^{28}

The System.String type supports the following sequences.

Char	Meaning	Value
\'	Single quote	0x0027
\"	Double quote	0x0022
\\	Backslash	0x005C
\0	Null	0x0000
\a	Alert	0x0007
\b	Backspace	0x0008
\f	Form feed	0x000C
\n	New line	0x000A
\r	Carriage return	0x000D
\t	Horizontal tab	0x0009
\v	Vertical tab	0x000B

The escape character is while @ is the verbatim character. The following operators are supported by C#.

Category (by precedence)	Operator(s)	Associativity
Primary	x.y f(x) a[x] x++ x-- new typeof default checked unchecked delegate	left
Unary	+ - ! ~ ++x --x (T)x	right
Multiplicative	* / %	left
Additive	+ -	left
Shift	<< >>	left
Relational	< > <= >= is as	left
Equality	== !=	right
Logical AND	&	left
Logical XOR	^	left
Logical OR	|	left
Conditional AND	&&	left
Conditional OR	||	left
Null Coalescing	??	left
Ternary	?:	right
Assignment	= *= /= %= += -= <<= >>= &= ^= |= =>	right

Exception can leave your program in an inconsistent state by not releasing resources or doing some other type of cleanup. Sometimes you need to perform clean up actions whether or not your program succeeds. These are good candidates for using a finally block e.g. A filestream must be closed.

Attributes are generally applied physically in front of type and type member declarations. They are declared with square brackets, "[" and "]" surrounding the attribute such as " [obsoleteattribute]". The "Attribute" part of the attribute name is optional i.e. "[Obsolete]" is correct as well. Parameter lists are also possible.

WPF enables polished user interfaces which are getting a lot of attention. It enables rapid iterations and major interface changes throughout the development process. It allows to keep user interface description and implementation separate. Developers can create an "ugly" application which designers can re-theme. Win32 style of programming makes such re-theming difficult. The code to re-paint the user interface is mixed up with program logic.

XAML is primarily used to describe interfaces in WPF and Silverlight. It is also used to express activities and configurations in workflow foundation (WF) and windows communication foundation (WCF). Its a common language for programmers and other experts e.g. UI design experts. Field specific development tools can be made. Field experts are graphic designers. They can use a design tool such as expression blend. Other than co-ordinating with designers, XAML is good for a concise way to represent UI or hierarchies of objects, encourages separation of front-end and back-end, tool support with copy and paste, used by all WPF tools.

XAML is xml with a set of rules. Its a declarative programming language for creating and initializing objects. Itsa way to use .net apis.

Comparisons with SVG, HTML etc are misguided. It has few keywords, not much elemetns. It doesn‟t make sense without .net, like C# doesnt make sense without .net. Microsoft formalized XAML vocabularies, e.g. WPF XAML vocabulary

BAML is binary application markup language. It just a compressed representation of XAML. There is even a BAML reader available. Earlier there was CAML which stands for compiled application markup language but it's not used now.

Some glue code is generated when we use x:Class. Its kind of same as loading and parsing the XAML file. We must call initialize component and we can refer named elements like class members.

Dependency properties are represented by System.Windows.dependencyproperty. By convention, public static and Property suffix are used. Its required by several infrastructure pieces e.g. Localization tools, xaml loading. Optionally (via different overloads of Register), you can pass metadata that customizes how the property is treated by WPF, as well as callbacks for handling property value changes, coercing values, and validating values. .net prop wrapper optional.

Remember me in Prayers

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