

# OO Language Concepts for Procedural 4GL Developers

## Example Code Samples

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/*****
/* presentation/examples/example01-method.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn tim.kuehn@gmail.com */

DEFINE VARIABLE oClass AS presentation.classes.Method NO-UNDO.

oClass = NEW presentation.classes.Method().

oClass:SetVariable("class value").
MESSAGE oClass:GetVariable() VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/Method.cls */

CLASS presentation.classes.Method:

DEFINE VARIABLE ExampleVar AS CHARACTER NO-UNDO.

METHOD VOID SetVariable(newvalue AS CHARACTER):
ExampleVar = newvalue.
END METHOD.

METHOD CHARACTER GetVariable():
RETURN(examplevar).
END METHOD.

END CLASS.

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*****/
/* presentation/examples/example02-property.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn tim.kuehn@gmail.com */

DEFINE VARIABLE oClass AS presentation.classes.Property NO-UNDO.

oClass = NEW presentation.classes.Property().

oClass:ExampleProperty = "class property".
MESSAGE oClass:ExampleProperty VIEW-AS ALERT-BOX.

/*****
/* examples/ExampleProperty.cls */

CLASS presentation.classes.Property:

DEFINE PUBLIC PROPERTY ExampleProperty AS CHARACTER NO-UNDO
    GET. SET.

END CLASS.
```

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/*****
/* presentation/examples/example03-using.p          */
/* Copyright 2011 TDK Consulting Services Inc.      */
/* Timothy D. Kuehn tim.kuehn@gmail.com            */
*/
*/

USING presentation.classes.*.

/* presentation/examples/example01-method.p        */

DEFINE VARIABLE oClass AS Method NO-UNDO.

oClass = NEW Method().

oClass:SetVariable("class value").
MESSAGE oClass:GetVariable() VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/Method.cls                 */
*/

CLASS presentation.classes.Method:

DEFINE VARIABLE ExampleVar AS CHARACTER NO-UNDO.

METHOD VOID SetVariable(newvalue AS CHARACTER):
ExampleVar = newvalue.
END METHOD.

METHOD CHARACTER GetVariable():
RETURN(examplevar).
END METHOD.

END CLASS.

```

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/*****
/* presentation/examples/example04-signatures.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn - tim.kuehn@gmail.com */

USING presentation.classes.*.

DEFINE VARIABLE oClass1 AS SignatureMatch NO-UNDO.
DEFINE VARIABLE oClass2 AS SignatureMatch NO-UNDO.

oClass1 = NEW SignatureMatch().
oClass2 = NEW SignatureMatch().

oClass1:SetVariable("a string").
oClass2:SetVariable(123, 456).

MESSAGE oClass1:GetVariable()    SKIP
        oClass2:GetVariable()
VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/SignatureMatch.cls */

CLASS presentation.classes.SignatureMatch:

DEFINE VARIABLE ExampleVar AS CHARACTER NO-UNDO.

METHOD PUBLIC VOID SetVariable(prefixvalue AS INTEGER,
                               suffixvalue AS INTEGER
                               ):
SetVariable(STRING(prefixvalue, '999') + "." +
            STRING(suffixvalue, '999')).
END METHOD.

METHOD PUBLIC VOID SetVariable(newvalue AS CHARACTER):
ExampleVar = newvalue.
END METHOD.

METHOD PUBLIC CHARACTER GetVariable():
RETURN(ExampleVar).
END METHOD.

END CLASS.

```

```

/*****
/* presentation/examples/example05-constructor.p      */
/* Copyright 2011 TDK Consulting Services Inc.         */
/* Timothy D. Kuehn - tim.kuehn@gmail.com             */
*/

USING presentation.classes.*.

DEFINE VARIABLE aClass AS ConstructorClass NO-UNDO.
DEFINE VARIABLE bClass AS ConstructorClass NO-UNDO.

aClass = NEW ConstructorClass().
bClass = NEW ConstructorClass("my values").

MESSAGE aclass:GetVariable()      SKIP
        bclass:GetVariable()
VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/ConstructorClass.cls */
*/

CLASS presentation.classes.ConstructorClass:

DEFINE VARIABLE cur-value AS CHARACTER.

METHOD PUBLIC CHARACTER GetVariable():
RETURN(cur-value).
END METHOD.

CONSTRUCTOR PUBLIC ConstructorClass():
ASSIGN cur-value = "the time is now".
END CONSTRUCTOR.

CONSTRUCTOR PUBLIC ConstructorClass(new-value AS CHARACTER):
ASSIGN cur-value = new-value.
END CONSTRUCTOR.

END CLASS.

```

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*****/
/* presentations/examples/example06a-destructor.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn - tim.kuehn@gmail.com */

USING presentation.classes.*.

DEFINE VARIABLE oClass AS DestructorClass NO-UNDO.

oClass = NEW DestructorClass().

MESSAGE "pause before delete" VIEW-AS ALERT-BOX.

DELETE OBJECT oClass.

MESSAGE "pause after delete" VIEW-AS ALERT-BOX.

/*****/
/* presentation/classes/DestructorClass.cls */

CLASS presentation.classes.DestructorClass:
DEFINE VARIABLE cur-name AS CHARACTER.

DESTRUCTOR DestructorClass():
MESSAGE "delete " cur-name
VIEW-AS ALERT-BOX.
END DESTRUCTOR.

CONSTRUCTOR DestructorClass():
ASSIGN cur-name = "default constructor".
END CONSTRUCTOR.

CONSTRUCTOR DestructorClass(cur-parm AS CHARACTER):
ASSIGN cur-name = cur-parm.
END CONSTRUCTOR.

END CLASS.

```

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/*****
/* presentations/examples/example07a-garbage-collection.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn - tim.kuehn@gmail.com */

USING presentation.classes.*.

DEFINE VARIABLE oClass AS DestructorClass NO-UNDO.

oClass = NEW DestructorClass().

MESSAGE "run child" VIEW-AS ALERT-BOX.

RUN presentation/examples/example07b-garbage-collection.p.

MESSAGE "pause after run" VIEW-AS ALERT-BOX.

DELETE OBJECT oClass.

MESSAGE "pause after delete" VIEW-AS ALERT-BOX.

/*****
/* presentations/examples/example07b-garbage-collection.p */

USING presentation.classes.*.

DEFINE VARIABLE oClass AS DestructorClass NO-UNDO.

oClass = NEW DestructorClass("child procedure").

MESSAGE "leave child"
      VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/DestructorClass.cls */

CLASS presentation.classes.DestructorClass:
DEFINE VARIABLE cur-name AS CHARACTER.

DESTRUCTOR DestructorClass():
MESSAGE "delete " cur-name
      VIEW-AS ALERT-BOX.
END DESTRUCTOR.

CONSTRUCTOR DestructorClass():
ASSIGN cur-name = "default constructor".
END CONSTRUCTOR.

CONSTRUCTOR DestructorClass(cur-parm AS CHARACTER):
ASSIGN cur-name = cur-parm.
END CONSTRUCTOR.

END CLASS.

```



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/*****
/* presentation/examples/example08-access.p      */
/* Copyright 2011 TDK Consulting Services Inc.    */
/* Timothy D. Kuehn tim.kuehn@gmail.com          */
*/
*/

USING presentation.classes.*.

DEFINE VARIABLE oClassA AS AccessClass NO-UNDO.
DEFINE VARIABLE oClassB AS AccessClass NO-UNDO.

oClassA = NEW AccessClass().
oClassB = NEW AccessClass("parm").

MESSAGE "A:" oClassA:Getchar()    SKIP
        "B:" oClassB:GetChar()
        VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/AccessClass.cls      */
*/
*/

CLASS presentation.classes.AccessClass:

DEFINE PRIVATE VARIABLE cur-char AS CHARACTER    NO-UNDO.
DEFINE PRIVATE VARIABLE cur-int  AS INTEGER      NO-UNDO.

METHOD PUBLIC CHARACTER GetChar():
RETURN(cur-char).
END METHOD.

/*****
CONSTRUCTOR PUBLIC AccessClass():
THIS-OBJECT("parm1", 1).
END CONSTRUCTOR.

/*****
CONSTRUCTOR PUBLIC AccessClass(parm AS CHARACTER):
THIS-OBJECT(parm, 1).
END CONSTRUCTOR.

/*****
CONSTRUCTOR PRIVATE AccessClass(parm1 AS CHARACTER,
                                parm2 AS INTEGER).

ASSIGN
    cur-char    = parm1
    cur-int     = parm2
    .

END CONSTRUCTOR.

END CLASS.

```

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/*****
/* presentation/examples/example09a-static.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn tim.kuehn@gmail.com */

USING presentation.classes.*.

DEFINE VARIABLE oStat AS StaticMembers NO-UNDO.

MESSAGE "SetStatProp" VIEW-AS ALERT-BOX.
StaticMembers:stat-value = "value".

MESSAGE "SetDynProp" VIEW-AS ALERT-BOX.
oStat = NEW StaticMembers().

/*****
/* presentation/classes/StaticMembers.cls */

CLASS presentation.classes.StaticMembers:

DEFINE PUBLIC STATIC PROPERTY stat-value AS CHARACTER NO-UNDO GET. SET.
DEFINE PUBLIC PROPERTY cls-value AS CHARACTER NO-UNDO GET. PRIVATE SET.

METHOD PUBLIC STATIC CHARACTER GetStatValue():
RETURN(stat-value).
END METHOD.

METHOD PUBLIC CHARACTER GetClsValue():
RETURN(cls-value).
END METHOD.

CONSTRUCTOR STATIC StaticMembers():
MESSAGE "Static Const" VIEW-AS ALERT-BOX.
END CONSTRUCTOR.

CONSTRUCTOR PUBLIC StaticMembers():
MESSAGE "Object Const" VIEW-AS ALERT-BOX.
ASSIGN cls-value = "cls".
END CONSTRUCTOR.

END CLASS.

```

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/*****
/* presentation/examples/example09b-static.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn tim.kuehn@gmail.com */

USING presentation.classes.*.

DEFINE VARIABLE oStat AS StaticMembers NO-UNDO.

MESSAGE "SetDynProp" VIEW-AS ALERT-BOX.
oStat = NEW StaticMembers().

MESSAGE "SetStatProp" VIEW-AS ALERT-BOX.
StaticMembers:stat-value = "value".

/*****
/* presentation/classes/StaticMembers.cls */

CLASS presentation.classes.StaticMembers:

DEFINE PUBLIC STATIC PROPERTY stat-value AS CHARACTER NO-UNDO GET. SET.
DEFINE PUBLIC PROPERTY cls-value AS CHARACTER NO-UNDO GET. PRIVATE SET.

METHOD PUBLIC STATIC CHARACTER GetStatValue():
RETURN(stat-value).
END METHOD.

METHOD PUBLIC CHARACTER GetClsValue():
RETURN(cls-value).
END METHOD.

CONSTRUCTOR STATIC StaticMembers():
MESSAGE "Static Const" VIEW-AS ALERT-BOX.
END CONSTRUCTOR.

CONSTRUCTOR PUBLIC StaticMembers():
MESSAGE "Object Const" VIEW-AS ALERT-BOX.
ASSIGN cls-value = "cls".
END CONSTRUCTOR.

END CLASS.

```

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/*****
/* presentation/examples/example09c-static.p */
/* Copyright 2011 TDK Consulting Services Inc. */
/* Timothy D. Kuehn tim.kuehn@gmail.com */

USING presentation.classes.*.

MESSAGE "set stat prop" VIEW-AS ALERT-BOX.
StaticMembers:stat-value = "value".

MESSAGE "get Stat Prop:" StaticMembers:GetStatValue()
VIEW-AS ALERT-BOX.

/*****
/* presentation/classes/StaticMembers.cls */

CLASS presentation.classes.StaticMembers:

DEFINE PUBLIC STATIC PROPERTY stat-value AS CHARACTER NO-UNDO GET. SET.
DEFINE PUBLIC PROPERTY cls-value AS CHARACTER NO-UNDO GET. PRIVATE SET.

METHOD PUBLIC STATIC CHARACTER GetStatValue():
RETURN(stat-value).
END METHOD.

METHOD PUBLIC CHARACTER GetClsValue():
RETURN(cls-value).
END METHOD.

CONSTRUCTOR STATIC StaticMembers():
MESSAGE "Static Const" VIEW-AS ALERT-BOX.
END CONSTRUCTOR.

CONSTRUCTOR PUBLIC StaticMembers():
MESSAGE "Object Const" VIEW-AS ALERT-BOX.
ASSIGN cls-value = "cls".
END CONSTRUCTOR.

END CLASS.

```