SAP ABAP summarization

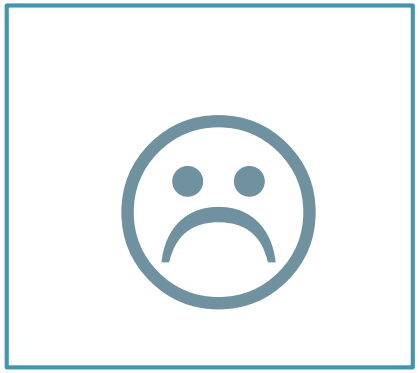
[bana]

What is good? What is not? Comparison..

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SAP overview and general structure

Client-server concept

Layers (Pres, Appl, Db)

SAP NetWeaver AS
ABAP JAVA

Base processes: Dispatcher, ICM, MS, ENQ, DIA, UPD, SPO, GW, (RDBMS), …

SAP GUI usage & SAP Logon & Easy Access (login, icons, navigations, F1, F4, ABAP Workbench,…)

SAP as software (release strategy, patches, upgrade, development process,CR, transport, authorization concept, licensing model)

SAP business ? separation according to business (? = One, By-Design, All-in-one) ☺

..from business perspective: CRM, ERM, BW,.. modules: HR, MM, SD, PP, .. ABAP

Transaction code ☺

Interface technologies
RFC, ALE, BAPI, SOAP, XML, OLE, BOR, ...

se80, se38, se91, se16, sm50, shma,...

Services: F1, F4

SAP ABAP creating program

Modularization
Function modul and groups, subroutin, signature, imp, exp, form, using, changing, tables, class, method, interface, global és local datatype

ABAP dictionary
Type definitions: structure (deep ,nested), data elements, table types, domain, range,..

Screen programming
Screen painter , layout manager, subscreen, tabstrip, .. + code assignment

View and maintenance dialogs ☺

ABAP program
Basic elements, selection screens, process flow, sy-, dynpro, events, modules, includes, PAI, POI ☺, GUI status & title, type-pools, messages, parameters

RDBMS, SQL (common syntax) ☺

Internal table (+wa) and DB transparent table assigment

DB objects
Table, view, cluster, index, pool, cardinality, buffering, fragmenting, logging, other DB administration operations

ABAP workbench
repository information system, object navigator, search tools, repository browser, debugger, screen&menu painter, function&class builder, variants

Include & append ☺

„Strong" syntax ☺
Required: importing, exporting, .. parameter name
C++: bool f() /* function or method ? */
f(*b, &b) /* in or out or using ? */
own_type *x = (&((own_type)(**y))) /* wt.? */

Shared memory, session, set/get

SAP ABAP OO

OO syntax, global, local class, instantiation, ref to, method, attributes, public, private, protected, def+impl, exceptions handling & raising

Redefinition methods, widening cast, narrowing cast, interfaces, static, abstract, friend, final, events ☺

Create public, private, protected ☺

Class constructor keyword ☺

Generalization, any table, type any, assign, field symbol

RTTS
(Run Time Type Services)

Shared objects

SAP application areas

Customer exits: program, menu, screen exit

User exit

Query

Customer documentation

Enhancement point/section

WebDynpro (MVC modell, context structure, mapping, view)

ALV: cl_gui_alv_grid < cl_salv_table



☹ No classical array (creating multidimensional array is problematic), matrix operations? Is it really needed? Instead of array there is internal table. ☺ No wrong indexing.. => e.g. no overflow problem (of course forcing LOOP code-section can be created)

☹ No enumeration type. No strict domain and relation among elements (<,>,=). C++: enum C = { R, G, B }, R>B [false]

☹ No multiple inheritance: Ship{ int km; go_on_water(x) }, Airplane{ int km; fly(x) }, Hydroplan from Ship, Airplane. Why?

„because one of the main design goals for ABAP Objects was to make it as simple as possible”, „..naming collisions..”, „..diamond inheritance problem..”

Then: handle with interface; a Hydroplan instantiates Ship and Airplane

☹ Overloading: f(int x), f(char x). Solution: grouping of parameters and using optional
☹ No „final variable” (variable can have value only once)
☹ Enhancement section and point / customer exits forced solutions? Better and more traditional: versioncontrol. But from another point of way enhancemenet and customer exists in SAP „way”?



- ☺ Several check concept for developer (secure implementation, avoid and isolating possible problems), „strong” syntax, F1, F4, (double) domain concept, input check in fields, check table, value table
- ☺ Integrated
- ☺ „Obvious and rich” to get information from system (lots, and lots of stuff stored in DB, they can access with transactions)
- ☺ Well-documented information about SAP and themes + communitiy (PDF, forum, incorporated helps, books..)
- ☺ ABAP Editor no colorful like christmas tree, simple and logic
- ☺ Using several programming concept (OO and structured)
- ☺ In SAP: easy-programming-technics for focused problems (e.g.: query, maintenance view); it could be like JAVA EE..
- ☺ „Easy-clicking-solution instead of coding (e.g.: webdynpro, foreign key => automatic F1, F4, checker)
- ☺ Several things to supporting development (unit test, object navigator, search tools, debugger, variants)
- ☺ Text table + text symbols (predefinied behaviour, schemas)

Thanks! ☺