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/*****/
/*  SAMPLE CALLABLE SERVICE PROGRAM.                */
/*  SHARE SESSION: INTRODUCING LE CALLABLE SERVICES */
/*  THOMAS PETROLINO                                */
/*  IBM LANGUAGE ENVIRONMENT                        */
/*  tapetro@us.ibm.com                             */
/*****/
#include <stdio.h>
#include <leawi.h>
#include <ceedcct.h>

int main()
{
/*****/
/* Required include files for callable services    */
/*****/
    _FEEDBACK        fc;

/*****/
/* Local declares needed for Math Callable Services. */
/*****/
    _FLOAT4          my_input, my_result;

/*****/
/* Local declares needed for Messaging Callable Services*/
/*****/
    _INT4            msg_dest = 2;
    _VSTRING         my_message;

/*****/
/* Local declares needed for CEE3DMP Callable Service */
/*****/
    _CHAR80          dump_title = "Sample dump taken by CEE3DMP";
    _CHAR255         dump_options;
    #define          OPT_STRING "NOCOND"

/*****/
/* Local declares needed for Date/Time Callable Services*/
/*****/
    _INT4            my_lilian_date;
    _FLOAT8          my_lilian_secs;
    _CHAR17          my_gregorian_date;
    _VSTRING         my_date_pic;
    _CHAR80          my_timestamp;

/*****/
/* Local declares needed for CEE3ABD                */
/*****/
    _INT4            code = 1234;
    _INT4            timing = 0;

/*****/
/* Some local declares                             */
/*****/
    _CHAR80          my_temp_string;

/*****/

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/* Start some real code now... */
/*****

/*****
/* Set the dump title and options for CEE3DMP calls. */
/*****
memset(dump_options, ' ', sizeof(dump_options));
memcpy(dump_options, OPT_STRING, sizeof(OPT_STRING)-1);

/*****
/* Now call CEELOCT to get the local time as: */
/* Days since Oct 14, 1582. */
/* Seconds since Oct 14, 1582 */
/* Time string of the form YYYYMMDDHHMISS999 */
/* A feedback code */
/* Report Error and stop if CEELOCT fails. */
/*****
CEELOCT(&my_lilian_date, &my_lilian_secs,
        my_gregorian_date, &fc);
if (_FBCHECK(fc, CEE000) != 0) {
/*****
/* Use CEEMSG to output a language env message */
/*****
CEEMSG(&fc, &msg_dest, NULL);
/*****
/* Use CEE3DMP to produce CEEDUMP */
/*****
CEE3DMP(dump_title, dump_options, NULL);
CEE3ABD(&code, &timing);
}

/*****
/* Set up our picture string for CEEDATM call. */
/*****
strcpy(my_date_pic.string, "MM/DD/YYYY HH:MI:SS AP");
my_date_pic.length = strlen("MM/DD/YYYY HH:MI:SS AP");

/*****
/* Now call CEEDATM. */
/* Input: Lilian Seconds */
/* Picture of how to format data */
/* Returns: Input date/time as a formatted string */
/* A feedback code */
/* Report Error and stop if CEEDATM fails. */
/*****
CEEDATM(&my_lilian_secs, &my_date_pic,
        my_timestamp, &fc);
if (_FBCHECK(fc, CEE000) != 0) {
/*****
/* Use CEEMSG to output a language env message */
/*****
CEEMSG(&fc, &msg_dest, NULL);
/*****
/* Use CEE3DMP to produce CEEDUMP */
/*****
CEE3DMP(dump_title, dump_options, NULL);
CEE3ABD(&code, &timing);

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}

/*****/
/* Move the timestamp to a msg string for CEEMOUT call */
/*****/
strcpy(my_message.string,my_timestamp);
my_message.length = strlen(my_timestamp);

/*****/
/* Now call CEEMOUT. */
/* Input: String to be output */
/* Message destination */
/* Returns: A feedback code */
/* Report Error and stop if CEEMOUT fails. */
/*****/
CEEMOUT(&my_message,&msg_dest,&fc);
if (_FBCHECK(fc,CEE000) != 0) {
/*****/
/* Use CEEMSG to output a language env message */
/*****/
CEEMSG(&fc,&msg_dest,NULL);
/*****/
/* Use CEE3DMP to produce CEEDUMP */
/*****/
CEE3DMP(dump_title,dump_options,NULL);
CEE3ABD(&code,&timing);
}

/*****/
/* Move the string to a msg string for CEEMOUT call. */
/*****/
strcpy(my_message.string,"In main program!");
my_message.length = strlen("In main program!");

/*****/
/* Now call CEEMOUT. */
/* Input: String to be output */
/* Message destination */
/* Returns: A feedback code */
/* Report Error and stop if CEEMOUT fails. */
/*****/
CEEMOUT(&my_message,&msg_dest,&fc);
if (_FBCHECK(fc,CEE000) != 0) {
/*****/
/* Use CEEMSG to output a language env message */
/*****/
CEEMSG(&fc,&msg_dest,NULL);
/*****/
/* Use CEE3DMP to produce CEEDUMP */
/*****/
CEE3DMP(dump_title,dump_options,NULL);
CEE3ABD(&code,&timing);
}

/*****/
/* Setup to call CEESSQT with 9 as input. */
/*****/

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my_input = 9.0;

/*****
/* Now call CEESSTQT.                                     */
/*   Input: 9                                           */
/*   Returns: A feedback code                          */
/*   The result                                         */
/* Report Error and stop if CEESSTQT fails.           */
*****/
CEESSTQT(&my_input, &fc, &my_result);
if (_FBCHECK(fc,CEE000) != 0) {
/*****
/* Use CEEMSG to output a language env message        */
*****/
    CEEMSG(&fc, &msg_dest, NULL);
/*****
/* Use CEE3DMP to produce CEEDUMP                      */
*****/
    CEE3DMP(dump_title, dump_options, NULL);
    CEE3ABD(&code, &timing);
}

/*****
/* Build output string for CEEMOUTM call               */
*****/
sprintf(my_temp_string, "The square root of %f is %f\n",
        my_input, my_result);
strcpy(my_message.string, my_temp_string);
my_message.length = strlen(my_temp_string);

/*****
/* Now call CEEMOUT.                                    */
/*   Input: String to be output                        */
/*   Message destination                               */
/*   Returns: A feedback code                          */
/* Report Error and stop if CEEMOUT fails.           */
*****/
CEEMOUT(&my_message, &msg_dest, &fc);
if (_FBCHECK(fc,CEE000) != 0) {
/*****
/* Use CEEMSG to output a language env message        */
*****/
    CEEMSG(&fc, &msg_dest, NULL);
/*****
/* Use CEE3DMP to produce CEEDUMP                      */
*****/
    CEE3DMP(dump_title, dump_options, NULL);
    CEE3ABD(&code, &timing);
}

/*****
/* Setup to call CEESSTQT with 144 as input.          */
*****/
my_input = 144.0;

/*****
/* Now call CEESSTQT.                                     */

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/*      Input: 144                                     */
/*      Returns: A feedback code                       */
/*      The result                                     */
/* Report Error and stop if CEESSTQT fails.           */
/*****
CEESSTQT(&my_input, &fc, &my_result);
if (_FBCHECK(fc,CEE000) != 0) {
  /*****
  /* Use CEEMSG to output a language env message      */
  /*****
  CEEMSG(&fc,&msg_dest,NULL);
  /*****
  /* Use CEE3DMP to produce CEEDUMP                    */
  /*****
  CEE3DMP(dump_title,dump_options,NULL);
  CEE3ABD(&code,&timing);
}

/*****
/* Build output string for CEEMOUTM call              */
/*****
sprintf(my_temp_string,"The square root of %f is %f\n",
        my_input,my_result);
strcpy(my_message.string,my_temp_string);
my_message.length = strlen(my_temp_string);
/*****
/* Now call CEEMOUT.                                  */
/*      Input: String to be output                    */
/*      Message destination                           */
/*      Returns: A feedback code                      */
/* Report Error and stop if CEEMOUT fails.           */
/*****
CEEMOUT(&my_message,&msg_dest,&fc);
if (_FBCHECK(fc,CEE000) != 0) {
  /*****
  /* Use CEEMSG to output a language env message      */
  /*****
  CEEMSG(&fc,&msg_dest,NULL);
  /*****
  /* Use CEE3DMP to produce CEEDUMP                    */
  /*****
  CEE3DMP(dump_title,dump_options,NULL);
  CEE3ABD(&code,&timing);
}

/*****
/* Setup to call CEESSTQT with 2500 as input.        */
/*****
my_input = 2500.0;

/*****
/* Now call CEESSTQT.                                  */
/*      Input: 144                                     */
/*      Returns: A feedback code                       */
/*      The result                                     */
/* Report Error and stop if CEESSTQT fails.           */
/*****

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CESSSQT(&my_input, &fc, &my_result);
if (_FBCHECK(fc,CEE000) != 0) {
  /*****
  /* Use CEEMSG to output a language env message      */
  /*****
  CEEMSG(&fc,&msg_dest,NULL);
  /*****
  /* Use CEE3DMP to produce CEEDUMP                    */
  /*****
  CEE3DMP(dump_title,dump_options,NULL);
  CEE3ABD(&code,&timing);
}

/*****
/* Build output string for CEEMOUTM call              */
/*****
sprintf(my_temp_string,"The square root of %f is %f\n",
        my_input,my_result);
strcpy(my_message.string,my_temp_string);
my_message.length = strlen(my_temp_string);
/*****
/* Now call CEEMOUT.                                  */
/*   Input: String to be output                       */
/*   Message destination                             */
/*   Returns: A feedback code                       */
/* Report Error and stop if CEEMOUT fails.          */
/*****
CEEMOUT(&my_message,&msg_dest,&fc);
if (_FBCHECK(fc,CEE000) != 0) {
  /*****
  /* Use CEEMSG to output a language env message      */
  /*****
  CEEMSG(&fc,&msg_dest,NULL);
  /*****
  /* Use CEE3DMP to produce CEEDUMP                    */
  /*****
  CEE3DMP(dump_title,dump_options,NULL);
  CEE3ABD(&code,&timing);
}

/*****
/* Setup to call CESSSQT with -99 as input.          */
/*****
my_input = -99.0;

/*****
/* Now call CESSSQT.                                  */
/*   Input: 144                                       */
/*   Returns: A feedback code                       */
/*   The result                                       */
/* Report Error and stop if CESSSQT fails.          */
/*****
CESSSQT(&my_input, &fc, &my_result);
if (_FBCHECK(fc,CEE000) != 0) {
  /*****
  /* Use CEEMSG to output a language env message      */
  /*****

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    CEEMSG(&fc, &msg_dest, NULL);
/*****
/* Use CEE3DMP to produce CEEDUMP */
/*****
    CEE3DMP(dump_title, dump_options, NULL);
    CEE3ABD(&code, &timing);
}

/*****
/* Build output string for CEEMOUTM call */
/*****
sprintf(my_temp_string, "The square root of %f is %f\n",
        my_input, my_result);
strcpy(my_message.string, my_temp_string);
my_message.length = strlen(my_temp_string);
/*****
/* Now call CEEMOUT. */
/*   Input: String to be output */
/*   Message destination */
/*   Returns: A feedback code */
/* Report Error and stop if CEEMOUT fails. */
/*****
CEEMOUT(&my_message, &msg_dest, &fc);
if (_FBCHECK(fc, CEE000) != 0) {
/*****
/* Use CEEMSG to output a language env message */
/*****
    CEEMSG(&fc, &msg_dest, NULL);
/*****
/* Use CEE3DMP to produce CEEDUMP */
/*****
    CEE3DMP(dump_title, dump_options, NULL);
    CEE3ABD(&code, &timing);
}

/*****
/* We are outta here! */
/*****
return(0);
}
→

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