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// Coda-C example #9:  Inspecting objects

// Task:  Demonstrate how to check the class of an object.

static void codax09() {
    clean0 Array list=new0(Array);
    Array_takeObject(list,Char_Value("black dog"));
    Array_takeObject(list,Short_Value(4321));
    Array_takeObject(list,new0(Dictionary));
    Array_takeObject(list,0);

    for(intj=0;j<Array_count(list);++j) {
        Objooo=Array_sub(list,j);
        printf("Object[%d] is: ",j);
        if(!ooo)          printf("a NULL");
        else if (isa_(ooo,Short)) printf("a short value of %d",*((short*)ooo));
        else if (isa_(ooo,Char))  printf("a string: '%s'",(char*)ooo);
        else if (isa_(ooo,Dict))  printf("a dictionary with %d keys",Dictionary_count(ooo));
        else if (isa_(ooo,Array)) printf("an array with %d items",Array_count(ooo));
        elseprintf("an unknown object");
        printf("\n");
    }
}

codax_register(codax09)

// Purpose:  Show an example of introspection.

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// Coda-C adds the following:

// isa_()           - determine if an object inherits from a specific class
// Dict             - shorthand for Dictionary
// Array_takeObject - add object to an Array and take ownership

/*<stdout> example's output
Object[0] is: a string: 'black dog'
Object[1] is: a shortvalue of 4321
Object[2] is: a dictionary with 0keys
Object[3] is: a NULL
*****/
```