

```
data class Contact(  
    val name: String,  
    val phone: String?,  
    val email: String?,  
    val favorite: Boolean  
)  
  
fun formatContact(c: Contact): String {  
    val phoneDisplay = c.phone ?: "N/A"  
    val emailDisplay = c.email ?: "N/A"  
    val star = if (c.favorite) "*" else ""  
    return "${c.name} | Phone: $phoneDisplay | Email: $emailDisplay | $star"  
}  
  
fun filterContacts(  
    contacts: List<Contact>,  
    predicate: (Contact) -> Boolean  
): List<Contact> {  
    return contacts.filter(predicate)  
}  
  
fun printContacts(title: String, contacts: List<Contact>) {  
    println(title)  
    contacts.forEachIndexed { index, contact ->  
        println("${index + 1}. ${formatContact(contact)}")  
    }  
    println()  
}
```

```
}

fun main() {

    val allContacts = listOf(
        Contact("Maya Patel", "+91-90000-11111", "maya@example.com", true),
        Contact("Raj Sharma", null, "raj@sample.com", false),
        Contact("Li Wei", "+86-13800000000", null, false),
        Contact("Sara Ali", null, null, false),
        Contact("Tom O'Brien", "+1-555-1234", "tom@example.org", true)
    )

    printContacts("--- All Contacts ---", allContacts)

    val favorites = filterContacts(allContacts) { it.favorite }

    printContacts("--- Favorite Contacts ---", favorites)

    val withEmail = filterContacts(allContacts) { it.email != null }

    printContacts("--- Contacts with Email ---", withEmail)

}
```