While you wait, please check Spaces for my replies to your posts!

😎

Intro to Computer Science

Grade 11 – Pre AP
Thread 1, Day 12

Russell Gordon, Lakefield College School

Submit attendance!

Thread 1, Day 12

Agenda

- Playground: A function for base 2, 8, and 16 conversions
- Working Period: Arrays, Operators, Conditions
- Homework: Arrays, Operators, Conditions

Playground

A function for base 2, 8, and 16 conversions

```
204 func getDecimalEquvalent(of value: String, in Base: Double ) -> Double {
205
206 for character in value.reversed() {
207
208     if let digit = Double(String(character)) {
209         decimalEquvalent += digit * pow(Base,exponent)                    (4 times)
210
211         } else {
212         switch character {
213         case "A":
214             decimalEquvalent += 10 * pow(Base, exponent)
215         case "B":
216             decimalEquvalent += 11 * pow(Base, exponent)
217         case "C":
218             decimalEquvalent += 12 * pow(Base, exponent)
219         case "D":
220             decimalEquvalent += 13 * pow(Base, exponent)
221         case "E":
222             decimalEquvalent += 14 * pow(Base, exponent)
223         case "F":
224             decimalEquvalent += 15 * pow(Base, exponent)                  62994
225         default:
226             break
227             }
228         }
229
230     exponent += 1                                                         (5 times)
231     }
232     return decimalEquvalent                                               128530
233 }
234 //what's the decimal equivalent
235 getDecimalEquvalent(of: "1F612", in: 16.0  )                              128530
```

Playground

A function for base 2, 8, and 16 conversions

```
169 func getDecimalEquivalent(of value: String, from numberSystem: NumberSystemBase) -> Double {
170
171     // We are converting from what base?
172     var base = 0.0                                                          (3 times)
173     switch numberSystem {
174     case .binary:
175         base = 2.0                                                          2
176     case .octal:
177         base = 8.0                                                          8
178     case .hexadecimal:
179         base = 16.0                                                         16
180     }
181
182     // The exponent value at the rightmost digit
183     var exponent = 0.0                                                      (3 times)
184
185     // The current sum in decimal
186     var decimalEquivalent = 0.0                                             (3 times)
187
188     // Iterate over each character
189     for character in value.reversed() {•••}
223
224     return decimalEquivalent                                                (3 times)
225
226 }
227
228 getDecimalEquivalent(of: "11", from: .binary)                               3
229 getDecimalEquivalent(of: "11", from: .octal)                                9
230 getDecimalEquivalent(of: "11", from: .hexadecimal)                          17
```

Working Period

Arrays, Operators, Conditions

- Arrays
  - In your *Notes* playground, please create a new page.
  - Try out the examples here
  - Read here to understand why arrays are useful
  - Then try this knowledge check.
- Operators and Conditions
  - In your *Notes* playground, try all examples and quizzes here.
  - Be sure to record your thoughts, then write an update on Spaces.

Homework

Arrays, Operators, Conditions

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  - Try out the examples here
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Thank-you!