Tool For Generating Automated Academic Web Apps

Empowering The Novice Author

..Questions:: The number -65 in 2s complement is represented with eight bits as 1011 1111. What is the representation using 10 bits instead?

- I need to re-calculate again the encoding of 65 with 10 bits and then add one as explained in the translation.
- I just need to add two zeros before the sign and obtain *1000111111*
- I just need to add two more ones as the most significant bits: *1110111111*
- The number cannot be represented with 10 bits.

..Video:: SeoW3YNo3Zs

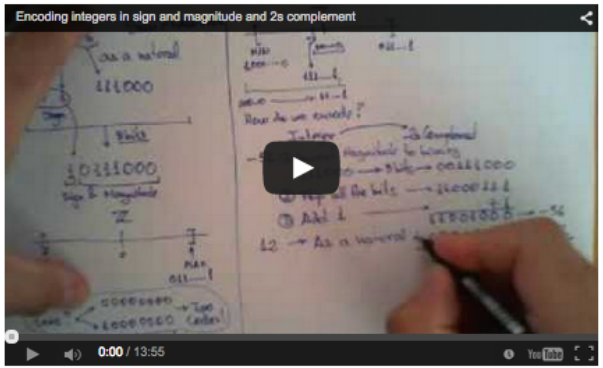
..Notes:: Encoding real numbers with Floating Point Representation

Encoding real numbers using binary logic is significantly more complex that the case of naturals and integers. As we have seen for the case of naturals and integers, when using an encoding with a fixed number of bits, there is a range of numbers that can be represented. But in the case of the real numbers, there are infinite values in that interval. Thus, the representation of real numbers must be restricted to a certain interval **and** to certain values within that interval. This feature of the encoding translates into several issues that need to be solved when operating with these numbers.

Question The number -65 in 2s complement is represented with eight bits as *1011 1111*. What is the representation using 10 bits instead?

A. I need to re-calculate again the encoding of 65 with 10 bits and then add one as explained in the translation.
B. I just need to add two zeros before the sign and obtain *1000111111*
C. I just need to add two more ones as the most significant bits: *1110111111*
D. The number cannot be represented with 10 bits.

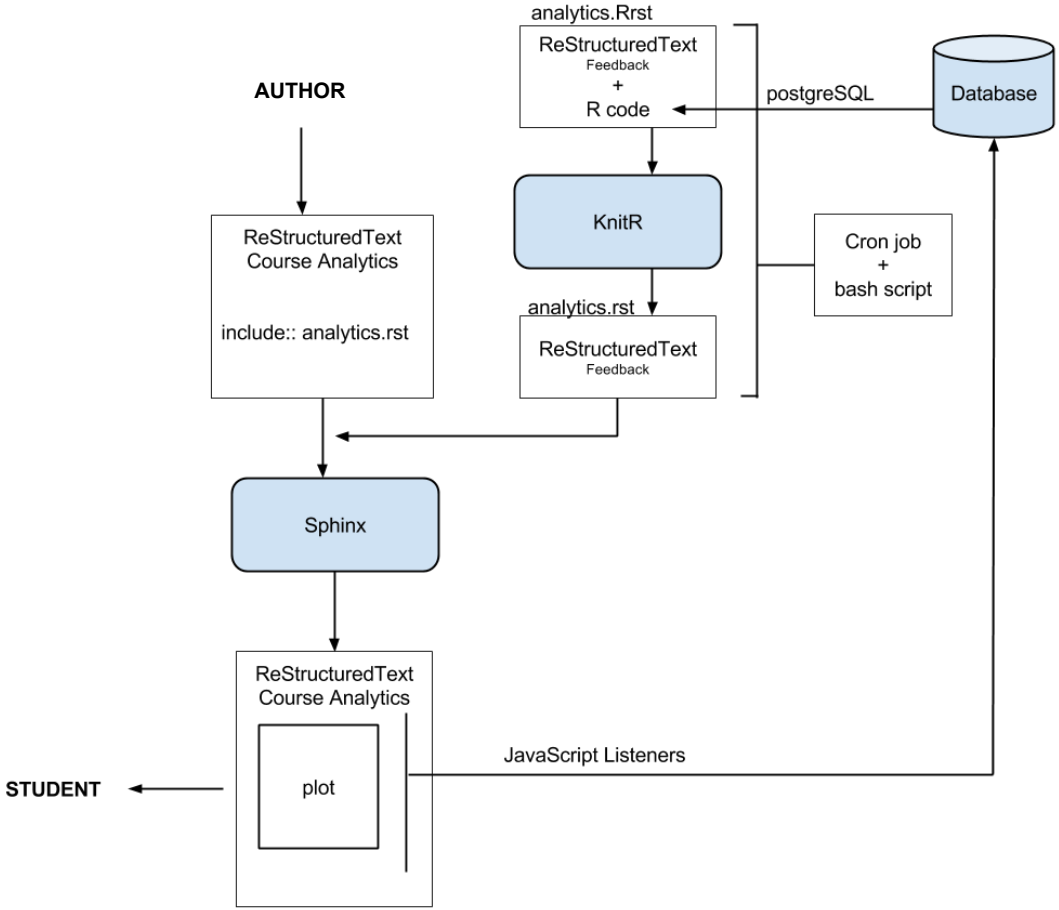
Grade



Encoding Real Numbers with Floating Point Representation

Encoding real numbers using binary logic is significantly more complex that the case of naturals and integers. As we have seen for the case of naturals and integers, when using an encoding with a fixed number of bits, there is a range of numbers that can be represented. But in the case of the real numbers, there are infinite values in that interval. Thus, the representation of real numbers must be restricted to a certain interval **and** to certain values within that interval. This feature of the encoding translates into several issues that need to be solved when operating with these numbers.

The Back Annotation Loop



User Sign In

Username: 45

Password: •••••••

Submit

ELEC1601 Computer Systems Weekly Schedule

Welcome to ELEC1601 and introductory course to computer systems. Listed below are the contents of the course.

Contents:

Back to top

Week 2: Information Encoding

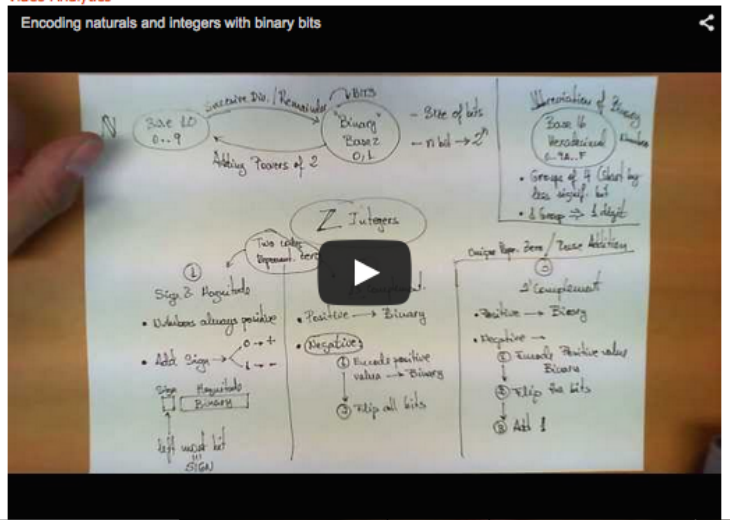
How many binary digits are needed to code a hexadecimal digit?

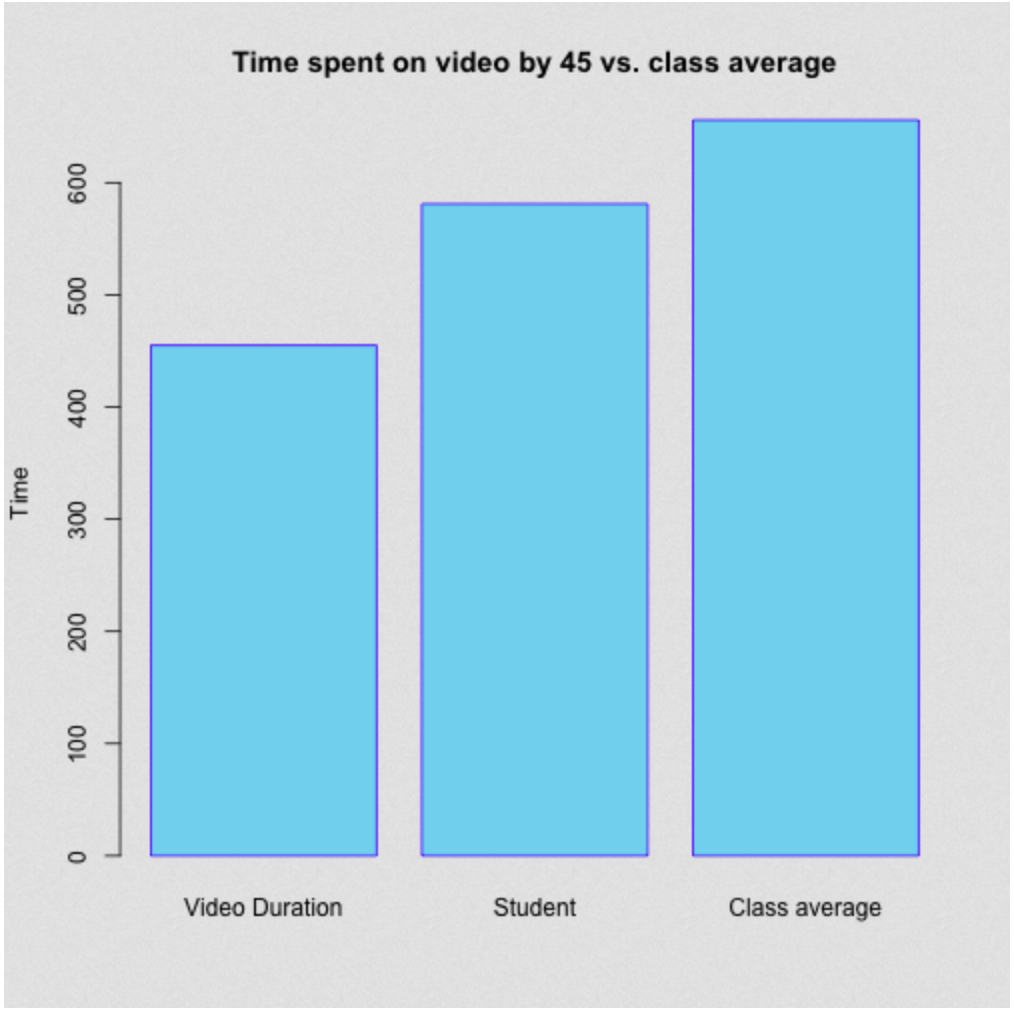
- 3
- 2
- 4
- 7
- 1
- 8

Submit Answer

2.10.3. VIDEO: Review of natural and integer number encoding

Video Analytics




Time spent on video by 45 vs. class average
Time
0
100
200
300
400
500
600
Video Duration
Student
Class average