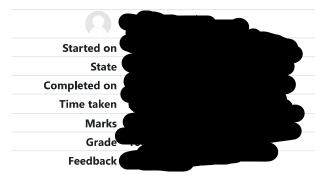
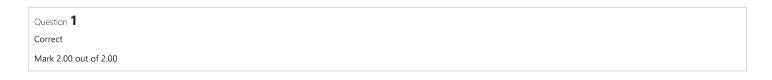
<u>Dashboard</u> / My courses / <u>COMS1015A-BCO1-S1-2023</u> / <u>Data Representation I: 20 March - 24 March</u> / <u>Tutorial 2: Number Representations II</u>



You are a highly motivated student, who takes full responsibility for your learning. A reflective learner, who recognises areas for development and is committed to personal improvement. An organised learner who always completes class work and homework to a very high standard.



Compute the following octal addition: 746.12+134.25

Answer: 1102.37

The correct answer is: 1102.37

Response	Response history					
Step	Time	Action	State	Marks		
1	20/03/23, 15:25	Started	Not yet answered			
<u>2</u>	20/03/23, 15:27	Saved: 1102.37	Answer saved			
3	20/03/23, 15:56	Attempt finished	Correct	2.00		

Question 2
Complete
Not graded

What is the minimum number of bits required to represent the hexadecimal number **7E6** (write your answer in binary)? (Enter **only the number** as your answer i.e. don't add units)

Answer:	4		
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The correct answer is: 1011

Response history					
Step	Time	Action	State	Marks	
1	20/03/23, 15:25	Started	Not yet answered		
<u>2</u>	20/03/23, 15:29	Saved: 16 bits	Incomplete answer		
<u>3</u>	20/03/23, 15:29	Saved: 16	Answer saved		
<u>4</u>	20/03/23, 15:55	Saved: 4	Answer saved		
5	20/03/23, 15:56	Attempt finished	Complete	0.00	

Question 3	
Correct	
Mark 1.00 out of 1.00	

Which number system makes use of digits 0-9 and letters A-R to represent a number?

- a. Base-26
- o b. Base-27
- o. Such number system does not exist.
- d. Base-28

 ✓

Your answer is correct.

The correct answer is:

Base-28

Response history					
Step	Time	Action	State	Marks	
1	20/03/23, 15:25	Started	Not yet answered		
<u>2</u>	20/03/23, 15:31	Saved: Base-28	Answer saved		
3	20/03/23, 15:56	Attempt finished	Correct	1.00	

Question 4
Correct
Mark 2.00 out of 2.00

Compute the following binary subtraction:

110010.1011 - 101.1

Answer: 101101.0011

The correct answer is: 101101.0011

Response history					
Step	Time	Action	State	Marks	
1	20/03/23, 15:25	Started	Not yet answered		
<u>2</u>	20/03/23, 15:32	Saved: 101101.0011	Answer saved		
3	20/03/23, 15:56	Attempt finished	Correct	2.00	

Question **5**Correct
Mark 3.00 out of 3.00

Convert the hexadecimal number 12B.A to binary.

Answer: 100101011.101

The correct answer is: 100101011.101

Response history				
Step	Time	Action	State	Marks
1	20/03/23, 15:25	Started	Not yet answered	
<u>2</u>	20/03/23, 15:39	Saved: 101111011.100111001	Answer saved	
<u>3</u>	20/03/23, 15:46	Saved: 100101011.101	Answer saved	
4	20/03/23, 15:56	Attempt finished	Correct	3.00

Question	6
Correct	

Mark 1.00 out of 1.00

How are bases 8 and 2 related, and what does that tell us about the conversion between either bases?

Select one:

- A. 8 is a power of 2. And so base 8 digits can be read off in binary but base 2 digits can't be read off in octal.
- B. 2 is a power of 8. And so three base 2 digits can be read off in octal and base 8 digits can be read off in binary.
- ◎ C. 8 is a power of 2. And so base 8 digits can be read off in binary and three base 2 digits can be read off in octal.
- D. 2 is a power of 8. And so base 2 digits cannot be read off in octal nor can base 8 digits be read off in binary.
- E. 2 is a power of 8. And so base 2 digits can be read off in octal but base 8 digits cannot be read off in binary

Your answer is correct.

The correct answer is:

8 is a power of 2. And so base 8 digits can be read off in binary and three base 2 digits can be read off in octal.

Response history						
Step	Time	Action	State	Marks		
1	20/03/23, 15:25	Started	Not yet answered			
<u>2</u>	20/03/23, 15:40	Saved: 8 is a power of 2. And so base 8 digits can be read off in binary and three base 2 digits can be read off in octal.	Answer saved			
3	20/03/23, 15:56	Attempt finished	Correct	1.00		

Question **7**Correct
Mark 3.00 out of 3.00

Convert the following Base-30 number to its Hexadecimal equivalent: $(\mbox{RB18.F})_{30}$

Answer: B467A.8

The correct answer is: B467A.8

Response history					
Step	Time	Action	State	Marks	
1	20/03/23, 15:25	Started	Not yet answered		
<u>2</u>	20/03/23, 15:44	Saved: B467A.8	Answer saved		
3	20/03/23, 15:56	Attempt finished	Correct	3.00	

Question **8**Correct
Mark 3.00 out of 3.00

Express the base-3 fraction 211.211 as a fraction in base-10.

Provide your answer in radix point form (e.g. 6.32).

Round off two decimal places.

Answer: 22.81 ✓

The correct answer is: 22.81



Question 9
Correct
Mark 3.00 out of 3.00

Convert the octal number 135 to hexadecimal.

Answer: 5D

The correct answer is: 5D

Response	Response history					
Step	Time	Action	State	Marks		
1	20/03/23, 15:25	Started	Not yet answered			
<u>2</u>	20/03/23, 15:50	Saved: 5D	Answer saved			
3	20/03/23, 15:56	Attempt finished	Correct	3.00		

Question 10
Correct
Mark 2.00 out of 2.00

Convert the base-4 number 1232 to binary.

Answer: 1101110

The correct answer is: 1101110

Response history						
Step	Time	Action	State	Marks		
1	20/03/23, 15:25	Started	Not yet answered			
<u>2</u>	20/03/23, 15:53	Saved: 1101110	Answer saved			
3	20/03/23, 15:56	Attempt finished	Correct	2.00		

Question 11	
Correct	
Mark 2.00 out of 2.00	

How many different objects can be represented in computer memory using 8 bits?

Answer: 256

The correct answer is: 256

Response history							
Step	Time	Action	State	Marks			
1	20/03/23, 15:25	Started	Not yet answered				
<u>2</u>	20/03/23, 15:54	Saved: 256	Answer saved				
3	20/03/23, 15:56	Attempt finished	Correct	2.00			

■ Data Representation I: Lecture Slides

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Tutorial 2 Solutions ►