**Дискретная математика**

Домашнее задание №2

«Сложение целых чисел»

Вариант № 16

Выполнил: Садовой Григорий Владимирович (гр. P3107)

Варианты задания

|  |  |
| --- | --- |
| ***A*** | ***B*** |
| 54 | 67 |

Ход работы

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| *А* > 0, *B* > 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*пр. | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |  | 54 |  | 54 |
| *B*пр. | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |  | 67 |  | 67 |
| *С*пр. | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |  | 121 |  | 121 |

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| CF=0, | ZF=0, | PF=0, | AF=0, | SF=0, | OF=0. |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *А >* 0, *B <*  0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*пр. | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |  | 54 |  | 54 |
| *B*доп. | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |  | -67 |  | 189 |
| *С*доп. | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |  |  |  | 243 |
| *С*пр. | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |  | -13 |  |  |

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| CF=0, | ZF=0, | PF=1, | AF=1, | SF=1, | OF=0. |

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| *А <* 0, *B >* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*доп. | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |  | -54 |  | 202 |
| *B*пр. | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |  | 67 |  | 67 |
| *С*пр. | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |  | 13 |  | 269? |

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| CF=1, | ZF=0, | PF=0, | AF=0, | SF=0, | OF=0. |

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| Для БзИ результат неверен вследствие возникающего переноса из старшего разряда. Вес этого переноса составляет 256. |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *А <* 0, *B <* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*доп. | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |  | -54 |  | 202 |
| *B*доп. | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |  | -67 |  | 189 |
| *С*доп. | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |  |  |  | 391? |
| *С*пр. | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |  | -121 |  |  |

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| CF=1, | ZF=0, | PF=1, | AF=1, | SF=1, | OF=0. |

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| --- |
| Для БзИ результат неверен вследствие возникающего переноса из старшего разряда. Вес этого переноса составляет 256. |

1. Правилодля подбора выглядит следующим образом:

*А + В* > 128, значит 127*> B* >128 - *A*, пусть *В* = 90.

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| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | *А >* 0, *B >* 0. | | | | | | | | | Интерпретации | | | | |  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая | | *А*доп. | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |  | 54 |  | 54 | | *B*доп. | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |  | 90 |  | 90 | | *С*доп. | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |  |  |  | 144 | | *С*пр. | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |  | -112? |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | CF=0, | ZF=0, | PF=1, | AF=1, | SF=1, | OF=1. | |

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| Для ЗИ результат является некорректным вследствие переполнения формата. | | | | | | | | | | |  | | |
| *А <* 0, *B <* 0. | | | | | | | | | Интерпретации | | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая | |  | Беззнаковая |
| *А*пр. | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |  | -54 | |  | 202 |
| *B*пр. | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |  | -90 | |  | 166 |
| *С*доп. | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |  | 112? | |  | 112? |

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| CF=1, | ZF=0, | PF=0, | AF=1, | SF=0, | OF=1. |

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| Для ЗИ результат является некорректным вследствие переполнения формата, для БзИ результат неверен вследствие возникающего переноса из старшего разряда. Вес этого переноса составляет 256 |

1. Значение числа *В* фиксируем (*В* = 67), а значение *А* подбираем согласно формуле *А + В* = 128, по которой при сложении положительных чисел будет фиксироваться переполнение, а при сложении отрицательных этого не будет. Тогда *А* = 61.

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| *А >* 0, *B >* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*доп. | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |  | 61 |  | 61 |
| *B*доп. | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |  | 67 |  | 67 |
| *С*доп. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  | 128 |
| *С*пр. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | -128? |  |  |

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| CF=0, | ZF=0, | PF=0, | AF=1, | SF=1, | OF=1. |

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| Для ЗИ результат является некорректным вследствие переполнения формата. |

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| *А <* 0, *B <* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*доп. | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |  | -109 |  | 147 |
| *B*доп. | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |  | -19 |  | 237 |
| *С*доп. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  | 128? |
| *С*пр. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | -128 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CF=1, | ZF=0, | PF=0, | AF=1, | SF=1, | OF=0. |

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| Для БзИ результат неверен вследствие возникающего переноса из старшего разряда, результат знакового варианта корректен. |