**Дискретная математика**

Домашнее задание №2

«Сложение целых чисел»

Вариант № 25

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Варианты задания

|  |  |
| --- | --- |
| ***A*** | ***B*** |
| 34 | 83 |

Ход работы

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *А* > 0, *B* > 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*пр. | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |  | 34 |  | 34 |
| *B*пр. | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |  | 83 |  | 83 |
| *С*пр. | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |  | 117 |  | 117 |

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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 | 0 | 0 | 0 | 1 | 0 |  | 34 |  | 34 |
| *B*доп. | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |  | -83 |  | 172 |
| *С*доп. | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |  |  |  | 206 |
| *С*пр. | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |  | -49 |  |  |

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

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| *А <* 0, *B >* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*доп. | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |  | -34 |  | 222 |
| *B*пр. | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |  | 83 |  | 83 |
| *С*пр. | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |  | 49 |  | 305? |

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

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *А <* 0, *B <* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*доп. | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |  | -34 |  | 222 |
| *B*доп. | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |  | -83 |  | 172 |
| *С*доп. | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |  |  |  | 394? |
| *С*пр. | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |  | -117 |  |  |

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

1. Правилодля подбора выглядит следующим образом:

*А + В* > 128, значит 127*> B* >128 - *A*, пусть *В* = 96.

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| *А >* 0, *B >* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*пр. | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |  | 34 |  | 34 |
| *B*пр. | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |  | 96 |  | 96 |
| *С*пр. | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |  | -2? |  | 130 |

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| CF=0, | ZF=0, | PF=1, | AF=0, | 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 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |  | -94 |  | 222 |
| *B*доп. | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |  | -32 |  | 160 |
| *С*пр. | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |  | 126 |  | 382? |

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| CF=1, | ZF=0, | PF=1, | AF=0, | SF=1, | 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* = 83), 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* = 45.

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| *А >* 0, *B >* 0. | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знаковая |  | Беззнаковая |
| *А*пр. | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |  | 45 |  | 45 |
| *B*пр. | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |  | 83 |  | 83 |
| *С*доп. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | -128? |  | 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 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |  | -45 |  | 211 |
| *B*доп. | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |  | -83 |  | 173 |
| *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=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. |