**Домашнее задание 2. Дискретная математика.**

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**Вариант 6**

**Число A = 65**

**Число B = 53**

Условное обозначение переноса (<)

1. А = 65, В = 53.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **А > 0, B > 0.** | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  | < |  | Знак. |  | Беззнак. |
| Апр. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |  | 65 |  | 65 |
| Bпр. | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |  | 53 |  | 53 |
| Спр. | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |  | 118 |  | 118 |

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **А > 0, B < 0.** | | | | | | | | | Интерпретации | | | |
|  | < | < |  |  |  |  | < | < |  | Знак. |  | Беззнак. |
| Апр. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |  | 65 |  | 65 |
| Bдоп. | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |  | -53 |  | 203 |
| Спр. | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |  | 12 |  | 12? |

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

Для беззнаковой операции результат неверен вследствие возникающего переноса из старшего разряда.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **А < 0, B > 0.** | | | | | | | | | Интерпретации | | | | |  |  |  | < | < | < | < | < | < |  | Знак. |  | Беззнак. | | | Адоп | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |  | -65 |  | 191 | | | Bпр. | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |  | 53 |  | 53 | | | Сдоп. | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |  |  |  | 244 | | | Спр. | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |  | -12 |  | |  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | CF=0 | ZF=0 | PF=0 | AF=0 | SF=1 | OF=0. | | | | | | | | | | | | | | | |
| **А < 0, B < 0.** | | | | | | | | | Интерпретации | | | |
|  | < | < | < | < | < | < | < | < |  | Знак. |  | Беззнак. |
| Адоп. | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |  | -65 |  | 191 |
| Bдоп. | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |  | -53 |  | 203 |
| Сдоп. | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |  |  |  | 138? |
| Спр. | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |  | -118 |  |  |

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

Для беззнаковой операции результат неверен вследствие возникающего переноса из старшего разряда.

1. Правило для подбора выглядит следующим образом:

А + В > 128, значит 127 > B > 128 - A, пусть В = 80.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| В | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |

А

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **А > 0, B > 0.** | | | | | | | | | Интерпретации | | | |
|  |  | < |  |  |  |  |  |  |  | Знак. |  | Беззнак. |
| Апр. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |  | 80 |  | 80 |
| Bпр. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |  | 65 |  | 65 |
| Сдоп. | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |  |  |  | 145 |
| Спр. | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |  | -111? |  |  |

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

Для знакового сложения результат является некорректным вследствие переполнения формата.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **А < 0, B < 0.** | | | | | | | | | Интерпретации | | | |
|  | < |  | < | < |  |  |  |  |  | Знак. |  | Беззнак. |
| Адоп. | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |  | -65 |  | 191 |
| Bдоп. | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |  | -80 |  | 176 |
| Спр. | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |  | 111? |  | 111? |

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

Для знаковой интерпретации результат неверен вследствие возникающего переполнения, для беззнаковой интерпретации результат неверен вследствие возникающего переноса из старшего разряда.

1. Значение числа *В* фиксируем (*В* = 53), 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* = 75.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *B* | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |

*А*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***А* > 0, *B* > 0.** | | | | | | | Интерпретации | | | | | | |
|  |  | < | < | < | < | < | | < | < |  | Знак. |  | Беззнак. | |
| *А*пр. | 0 | 1 | 0 | 0 | 1 | 0 | | 1 | 1 |  | 75 |  | 75 | |
| *B*пр. | 0 | 0 | 1 | 1 | 0 | 1 | | 0 | 1 |  | 53 |  | 53 | |
| *С*доп. | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |  |  |  | 128 | |
| *С*пр. | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |  | -128? |  |  | |

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

Для знаковой интерпретации результат некорректен вследствие возникающего переполнения.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***А* < 0, *B* < 0.** | | | | | | | | | Интерпретации | | | |
|  |  |  |  |  |  |  |  |  |  | Знак. |  | Беззнак. |
| *А*доп. | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |  | -75 |  | 203 |
| *B*доп. | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |  | -53 |  | 181 |
| *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. |

Для беззнаковой интерпретации результат неверен вследствие возникающего переноса из старшего разряда, результат знаковой интерпретации корректен.