|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Boolean | char | int | double | String |
| Boolean | * It is not legal to use the + operator * You will get a compiler error. | * It is not legal to use the + operator * You will get a compiler error. | * It is not legal to use the + operator * You will get a compiler error. | * It is not legal to use the + operator * You will get a compiler error. | * It is legal to use the + operator * The value of the Boolean will be concatenated with the value of the string. * The final data type will be a String. |
| char | * It is not legal to use the + operator * You will get a compiler error. | * It is legal to use the + operator * The value of the 1st char will be concatenated with the value of the 2nd char. * The data type of the final value will be a String. | * It is legal to use the + operator * The number value of the char will be added to the value of the integer * The data type of the final value will be an int. | * It is legal to use the + operator * The number value of the char will be added to the value of the double * The data type of the final value will be a double. | * It is legal to use the + operator * The value of the char will be concatenated to the start of the String * The data type of the final value will be a String. |
| int | * It is not legal to use the + operator * You will get a compiler error. | * It is legal to use the + operator * The number value of the char will be added to the value of the integer * The data type of the final value will be an int. | * It is legal to use the + operator * The two ints will be added together and a new int will be created with the new value. * The data type of the final value will be an int. | * It is legal to use the + operator * The value of the int will be added to the value of the double * The data type of the final value will be a double. | * It is legal to use the + operator * The value of the int will be concatenated to the start of the String * The data type of the final value will be a String. |
| double | * It is not legal to use the + operator * You will get a compiler error. | * It is legal to use the + operator * The number value of the char will be added to the value of the double * The data type of the final value will be a double. | * It is legal to use the + operator * The value of the double will be added to the value of the int * The data type of the final value will be a double. | * It is legal to use the + operator * The number value of the 2nd double will be added to the value of the original double * The data type of the final value will be a double. | * It is legal to use the + operator * The double will be concatenated on to the start of the String * The data type of the final value will be a String. |
| String | * It is legal to use the + operator * The value of the Boolean will be concatenated with the value of the string. * The final data type will be a String. | * It is legal to use the + operator * The value of the char will be concatenated with the value of the string. * The final data type will be a String. | * It is legal to use the + operator * The value of the int will be concatenated with the value of the string. * The final data type will be a String. | * It is legal to use the + operator * The value of the double will be concatenated with the value of the string. * The final data type will be a String. | * It is legal to use the + operator * The value of the 1st String will be concatenated with the value of the 2nd String. * The final data type will be a String. |

3.

4.

When you increment a char using ++, the char’s Unicode value will be increased by 1. However when you try and increment using “ + 1” there will be an error because Java converts the char into an integer value and then calculates an integer value but it cannot prove that it is storable within the range of a char, so it won’t get converted and thus an error occurs.

5.

When “” is added to a: string, Boolean, integer, char or a double, the empty string will be concatenated with the information from the other data types.