

1. What type would you choose for the following “numbers”?
 - A person’s telephone number
Ans: **String**
 - A person’s height
Ans: **Float**
 - A person’s age
Ans: **Int**
 - A person’s gender (Male, Female, Prefer Not To Answer)
Ans: **String**
 - A person’s salary
Ans: **Decimal**
 - A book’s ISBN
Ans: **String**
 - A book’s price
Ans: **Decimal**
 - A book’s shipping weight
Ans: **Decimal**
 - A country’s population
Ans: **Int**
 - The number of stars in the universe
Ans: **Int**
 - The number of employees in each of the small or medium businesses in the United Kingdom (up to about 50,000 employees per business)
Ans: **Int**
 2. What is the difference between value type and reference type variables? What is boxing and unboxing?
 - Value type will directly hold value and be stored in stack memory and cannot accept null value, but reference type will hold the memory address and be stored in heap memory and accept null value.
 - Boxing convert value type into a reference type, and unboxing convert reference type back to value type.
 3. What is meant by the terms managed resource and unmanaged resource in .NET
 - Managed resource mean anything managed by CLR(Common Language Runtime).
 - Unmanaged resource mean native resources created and lifecycle managed outside of CLR.
 4. What’s the purpose of Garbage Collector in .NET?
 - To manages the allocation and release of memory for your application.
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1. What happens when you divide an int variable by 0?
 - Result will be in an ArithmeticException
 2. What happens when you divide a double variable by 0?

- Result will be Infinity
3. What happens when you overflow an int variable, that is, set it to a value beyond its range?
 - When value goes above maximum of the signed integer, the result will be a negative number.
 4. What is the difference between `x = y++`; and `x = ++y`;
 - `y++` is post increment and `++y` is pre increment.
 5. What is the difference between `break`, `continue`, and `return` when used inside a loop statement?
 - `Break` is to terminate the closest enclosing iteration statement or switch statement
 - `Continue` is to start a new iteration of the closest enclosing iteration statement
 - `Return` is to terminate execution of the function in which it appears and returns control to the caller
 6. What are the three parts of a `for` statement and which of them are required?
 - Initializes the loop variable
 - The loop's condition
 - Expression that changes the loop variable after each cycle
 7. What is the difference between the `=` and `==` operators?
 - `=` is an assignment operator which is used to assign the value
 - `==` is checked whether the two given operands are equal or not
 8. Does the following statement compile? `for (; true;) ;`
 - No
 9. What does the underscore `_` represent in a `switch` expression?
 - Replaces the default keyword to signify that it should match anything if reached
 10. What interface must an object implement to be enumerated over by using the `foreach` statement?
 - `IEnumerable` interface