Need of collection:

Generally we define values by declaring and assigning into variables such as int a= 10, int b=20 but now if we have to store thousand values then it is very cumbersome to declare 1000 variables, also readability of code is very poor, so instead of declaring thousand variables then store these values in arrays.

But there are some limitations of array;

1. Fixed size – This may lead of memory wastage. For instance, we have declared 1000 item array but we only require to use only 2 values then remaining elements value memory will be going to be wasted. Another example, if items becomes greater than 1000 then we can’t increase the size. For example, 1000 student batch, arrangements (chairs) are arrangement are done for 1000 students, but only 2 students turn out then 998 chairs got wasted.
2. It can only hold homogenous data elements: E.g. integers etc. We will get compile time error if we try to add another data types.
3. Array does not contain any readymade methods. For example, if we want to search any element in array, then we don’t have readymade methods but collection provide readymade methods such as ‘contains’ method.

To overcome above problems, we should use Collections.

Note: it is not always recommended to use collections instead of arrays when we know the size of list or array in advance. For example, if we know we are going to declare list of size 10 and now in future if we want to store 11th element in list (since it is grow able) then java copy the original list and then store 11th element in copied list in memory hence it lead to performance issue.



