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| **Day 6 Project**  **By**  **Arun**- **NB Healthcare Technologies PVT LTD.** |

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| 1) Disadvantages of ArrayList in Collections. |
| A) a. We need to unbox the data everytime when we are compiling.  b. There may be a chance of getting runtime error because the given data stores in the object datatype. |

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| 2) Differences between Collections and Generic. |

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| Collections | Generic |
| Namespace in collections is system.collections. | Namespace in Generic is system.collections.generic. |
| The datatype in collections is object datatype. | The datatype in Generic depends on the user which we choose. |
| In collections, we need type casting, where we need to convert datatype to our required datatype. | In generic, we need not to do type casting since we assign the required datatype at providing variables. |
| Eg:  ArrayListdata = new ArrayList();  Int sum=0;  data.Add(5);  data.Add(10);  foreach(var d in data)  Sum=sum+(int)d; | Eg:  List<int>data = newList<int>();  Int sum=0;  data. Add(5);  data. Add(10);  foreach (var d in data)  Sum=sum+d; |

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| 3) Alias names of all datatypes. |

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| Data type | Aliase name |
| byte | Byte |
| ushort | UInt16 |
| uint | UInt32 |
| ulong | UInt64 |
| sbyte | SByte |
| short | Int16 |
| int | Int32 |
| long | Int64 |
| float | Single |
| double | Double |
| decimal | Decimal |
| bool | Boolean |
| char | Char |
| string | String |

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| 4) Research and find how the values of ArrayList are stored in the memory. |
| A) The values store in the ArrayList is in the sequential order. If the memory gets full the storing memory gets doubled and gets stored somewhere in the Heap memory. |

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| 5) Research and find how the values of List<t> are stored in the memory. |
| A) The values are stored in distinct slabs of memory which are linked together with pointers.  This enables efficient use of memory which doesn’t require resize, sequential allocation etcc. |

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| 6) Program for implicit and explicit type casting. |
| A) When we want to store a smaller datatype value to a big datatype value is called Implicit type casting and Vice versa is called Explicit type casting.  Implicit program:  Short p=5;  Int q=p;    Explicit Program:  Int p=10;  Short q= (short)p; |

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