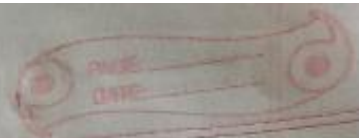


## Assignment - 5

### Assignment / 5



1) Why string not used for storing password?

2) Why string not used for storing password? why use char sequence or char arrays instead

→ as string are immutable so if password is stored then it will be available in the memory as garbage, so that it will be high chances that it will remain in memory for long time. because any change in string produced new string and storing password in string also have the chances to use by another one means the security is measure issue

But when we stored the password in char seq or array then when their work complete it can be wiped explicitly and also it can be overwritten that is mutable and also it overcome the disadvantage of security in string.

3) String are immutable?

→ String are immutable because it can not be change whenever the change appear





PAGE: \_\_\_\_\_  
DATE: \_\_\_\_\_

The new string can be formed. So that the it can be available in memory as garbage in for very long time.

once any string object can be created so its data and state can not be change we only able to create new string object.

4) write algo to search for an int in an int array using -

1) Linear search :- 1) traverse the array using a for loop

2) In every iteration, compare the target value with the current value of the array

- If the value match, return the current index of the array

- If the value do not match move to the next array element

3) If no match found return -1.



2) Binary search :- 1) Compare  $ac$  to middle element.

2) If  $ac$  matches with the middle elements, we return the mid index.

3) else if  $ac$  is greater than the mid element then  $ac$  can only lie in the right half subarray after the mid element so we recur for right half.

4) else recur for the left half.

4) What is different between String, String Buffer and String Builder

→ String :- String are immutable that means we can not change it when we try to change it then it create another object.

String are always created inside the String pool in heap so that when same object are created then it search in the pool and copying this in it.





## String Buffer and String Builder

String Buffer and String Builder are similar except String Buffer has thread safety.

both are mutable that means the change can occur.

It is always created outside the pool and inside the heap.

It can be used when there is a necessity to make modification.

Intern can be used to move object from outside to inside the pool in heap.

String Builder uses append method.

### 15) Concept of String Pool / Intern:-

→ In heap the String Pool is a storage area. when the string object is created it can be created in the String Pool.





String Pool are Important to decrease the number of strings object created in the JVM. each time string object created JVM search or check the string pool first.

If the string already exist in the string pool then the object pointed to that string instead of creating the same another object.

else if the string does not exist in the pool then new string object created in the string pool.

if you create a string using new operator and now want to add this string to string pool `intern()` method are used.

153} String `intern()` method with eg:-

if you create a string using new operator and now want to add this string to string pool `intern()` method are used.

eg :- `String S1 = new String("Gayatri");`  
`S1.intern();`

`String S2 = "Gayatri";`  
`S1.intern();`



System.out.println (S1==S2);

Output: True.

17) String S = new String("abc");  
String S1 = "abc";

→ Two object are created. one inside the pool and one outside the pool inside the heap.

18) Explain the Importance of exception handling?

→ Exception can disturb the normal flow of program instruction.

Exception handling is Important because it maintain the normal, desired flow of the program, even when unexpected events occur.

If Java exception are not handled program crash ~~error~~ request may fail this can be very frustrating the customer and if it occur repeatedly you loose those customer.

also when exception occurs at run time it gives some output which is non readable so if we handle it we provide proper output which can be read by customer.



19) Differenz

unchecked

15

13

2)

27

27

82

4)

4)

57

5)

60

69



Q20) Different between error and exception.

error                      Exception.

- |   |   |
|---|---|
| 1) error can be classified as an unchecked type               | 1) Exception can have checked and unchecked type                  |
| 2) error can not be handled                                   | 2) Exception can be handled.                                      |
| 3) it belong to <code>java.lang</code> error                  | 3) it belong to <code>java.lang</code> Exception.                 |
| 4) irrecoverable  | 4) recoverable  |
| 5) Can't be occur at compile time                             | 5) Can occur at both compile and run time.                        |
| 6) <code>IOException</code> , <code>OutOfMemoryError</code> . | 7) <code>SQLException</code> , <code>ArithmeticException</code> . |



22) are error throwable?

→ yes, A throwable object is an instance of class throwable exception and error are two subclasses of class throwable and each has many subclass itself.

23) Diff between throw and throws?

→ throw throws

1) throw keyword used explicitly throw an exception

1) throws used to declare an exception

2) checked exception can not be propagated using throw only

2) checked exception can be propagated using throws

3) throw is flowed by an instance

3) throws is flowed by class

4) throw used within the method.

4) throws is used with the method signature.



5) you can not throw multiple exceptions

5) you can declare multiple exceptions.  
eg:- Public void method() throws IOException, SQLException

24) What is "finally" keyword used for.

→ finally is a reserved keyword in Java, i.e we can't use it as identifier.

finally keyword used association with try/catch block, and guarantees that a section of code will be executed, even if an exception is thrown.

finally block executed after try/catch block, but before the control back to its origin.

25) Give example of multi-catch syntax?

→ Public class multipatchBlock1 {

```
public static void main(String[] args) {
```

```
try {
```



```

int a[] = new int[5];
a[5] = 30/0;
{
    catch(ArithmeticException e)
    {
        System.out.println("Arithmetic Exception occur");
    }
    catch(IndexOutOfBoundsException e)
    {
        System.out.println("Array Index Out of Bound occur");
    }
    catch(Exception e)
    {
        System.out.println("Parent Exception");
    }
    System.out.println("rest of the code");
}
}

```