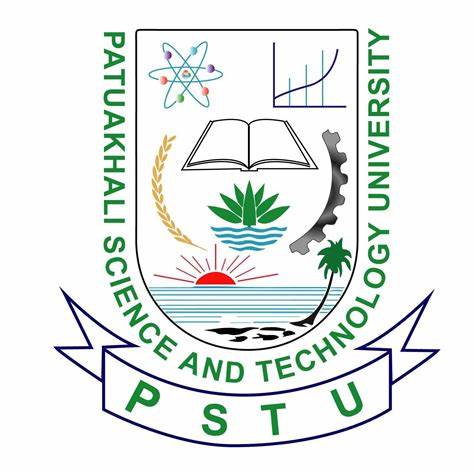
**PATUAKHALI SCIENCE AND TECHNOLOGY UNIVERSITY**



Course Code: CCE-121

**Assignment – 10**

### **SUBMITTED TO:** **Prof. Dr. Md Samsuzzaman**

### **Department of Computer and Communication Engineering**

**Faculty of Computer Science and Engineering**

**SUBMITTED BY**

Name: **Sanjida Islam Nuha**

ID: **2102063**, Registration No: **10190**

Faculty of Computer Science and Engineering

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**Exercise:**

**14.1 a) False. String objects are compared using operator == to determine whether they’re the**

**same object in memory.**

**b) False. String objects are immutable and cannot be modified after they’re created.**

**StringBuilder objects can be modified after they’re created.**

**14.2: a) s1.equals(s2)**

**b) s1 += s2;**

**c) s1.length()**

**14.3:** **) A palindrome is a word that reads the same both forward and backward, such as ‘radar’and ‘madam’. Write an application to check if a string entered by the user is a palindrome or not.**

Ans: **import java.util.Scanner;**

**public class palindrome {**

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

**Scanner input=new Scanner(System.in);**

**String str=input.next();**

**String org\_str=str;**

**String rev="";**

**int len=str.length();**

**for(int i=len-1;i>=0;i--)**

**{**

**rev=rev+str.charAt(i);**

**}**

**if(org\_str.equals(rev))**

**{**

**System.out.println(org\_str+" this is palindrome");**

**}**

**else**

**{**

**System.out.println(org\_str+" Is not palindrome");**

**}**

**}**

**}**

**14.4** (Comparing Portions of Strings) Write an application that uses String method region

import java.util.Scanner;

public class compareRegion {

public static void main(String[] args) {

Scanner input=new Scanner(System.in);

String first=input.nextLine();

String second=input.nextLine();

int numChar=input.nextInt();

int startIndex=input.nextInt();

if(startIndex>=0&&startIndex<first.length()&&startIndex<second.length()&&first.regionMatches(true,startIndex, second, numChar, startIndex))

{

System.out.println("The specified portion of the string are equal");

}

else{

System.out.println("IS not equal");

}

}

}

14.5:(Random Sentences)

**Ans:** import java.util.Random;

public class exfiveChapterfourteen{

public static void main(String[] args) {

String []articles={"the","a","one","some","any"};

String [] nouns={"boy","girl","dog","town","car"};

String [] verbs={"dropped","ran","jumped","skipped","walked"};

String [] prepositions={"to","from","over","under","on"};

Random random=new Random();

for(int i=0;i<20;i++)

{

String article=articles[random.nextInt(articles.length)];

String noun1=nouns[random.nextInt(nouns.length)];

String verb=verbs[random.nextInt(verbs.length)];

String preposition=prepositions[random.nextInt(prepositions.length)];

String article2=articles[random.nextInt(articles.length)];

String noun2=nouns[random.nextInt(nouns.length)];

String sentence=capitalize(article)+" "+noun1+" "+verb+" "+preposition+" "+article2+" " +noun2+".";

System.out.println(sentence);

}

}

public static String capitalize(String s)

{

return s.substring(0,1).toUpperCase()+s.substring(1 );

}

}

**14.6:** (Project: Limericks)

**Ans:** **import java.util.Random;**

**public class LimerickGenerator {**

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

**for (int i = 0; i < 5; i++) {**

**String line1 = generateLine();**

**String line2 = generateLine();**

**String line3 = generateLine();**

**String line4 = generateLine();**

**String line5 = generateLine();**

**System.out.println(line1);**

**System.out.println(line2);**

**System.out.println(line3);**

**System.out.println(line4);**

**System.out.println(line5);**

**System.out.println();**

**}**

**}**

**private static String generateLine() {**

**String[] subjects = {"a cat", "a dog", "a man", "a woman", "a frog"};**

**String[] verbs = {"sat", "stood", "jumped", "ran", "sang"};**

**String[] adverbs = {"merrily", "quickly", "happily", "slowly", "loudly"};**

**String[] rhymes = {"fun", "sun", "bun", "run", "done"};**

**Random random = new Random();**

**String line = "There once was " + subjects[random.nextInt(subjects.length)] + "\n" + "Who " + verbs[random.nextInt(verbs.length)] + " " + adverbs[random.nextInt(adverbs.length)] + "\n"+ "It was really quite " + rhymes[random.nextInt(rhymes.length)] + "\n";**

**return line;**

**}**

**}**

**14.7 (Pig Latin)**

**import java.util.Scanner;**

**public class PigLatin {**

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

**Scanner input = new Scanner(System.in);**

**System.out.println("Enter a sentence: ");**

**}**

**String sentence = input.nextLine();**

**input.close();**

**String[] words = sentence.split(" ");**

**for (String word : words) {**

**System.out.print(word.substring(1) + word.charAt(0) + "ay ");**

**}**

**}**

**14.8 (Tokenizing Telephone Numbers)**

**import java.util.Scanner;**

**public class TokeinizingTelephone {**

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

**Scanner input = new Scanner(System.in);**

**System.out.println("Enter a telephone number: ");**

**String telephoneNumber = input.nextLine();**

**input.close();**

**String[] tokens = telephoneNumber.split("[()\\- ]");**

**String areaCode = tokens[1];**

**String firstThreeDigits = tokens[3];**

**String lastFourDigits = tokens[4];**

**String phoneNumber = firstThreeDigits + lastFourDigits;**

**System.out.println("Area code: " + areaCode);**

**System.out.println("Phone number: " + phoneNumber);**

**}**

**19 }**

**14.9 (Displaying a Sentence with Its Words Reversed)**

**import java.util.Scanner;**

**public class ReverseSentence {**

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

**Scanner input = new Scanner(System.in);**

**System.out.println("Enter a sentence: ");**

**String sentence = input.nextLine();**

**input.close();**

**}**

**String[] words = sentence.split(" ");**

**for (int i = words.length - 1; i >= 0; i--) {**

**System.out.print(words[i] + " ");**

**}**

**}**

**14.10 (Longest Word in a Sentence)**

**import java.util.Scanner;**

**public class LongestWord {**

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

**Scanner input = new Scanner(System.in);**

**System.out.println("Enter a sentence: ");**

**String sentence = input.nextLine();**

**input.close();**

**String[] words = sentence.split(" ");**

**int maxLength = 0;**

**String longest\_word = "";**

**for (String word : words) {**

**if (word.length() > maxLength) {**

**longest\_word = word;**

**maxLength = word.length();**

**}**

**}**

**System.out.println("The longest word is: " + longest\_word);**

**}**

**}**