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**Reg No : FA23-BSE-014**

**Activity :**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Activity\_01

{

public static void main (String [] args)

{

Scanner input= new Scanner (System.in);

System.out.print("Enter Three points : ");

double x1=input.nextDouble();

double y1=input.nextDouble();

double x2=input.nextDouble();

double y2=input.nextDouble();

double x3=input.nextDouble();

double y3=input.nextDouble();

double a=Math.sqrt((x2-x3)\*(x2-x3)+(y2-y3)\*(y2-y3));

double b=Math.sqrt((x1-x3)\*(x1-x3)+(y1-y3)\*(y1-y3));

double c=Math.sqrt((x1-x2)\*(x1-x2)+(y1-y2)\*(y1-y2));

double A=Math.toDegrees(Math.acos((a \* a - b \* b - c \* c) / (-2 \* b \* c)));

double B=Math.toDegrees(Math.acos((b \* b - a \* a - c \* c) / (-2 \* a \* c)));

double C=Math.toDegrees(Math.acos((c \* c - b \* b - a \* a) / (-2 \* a \* b)));

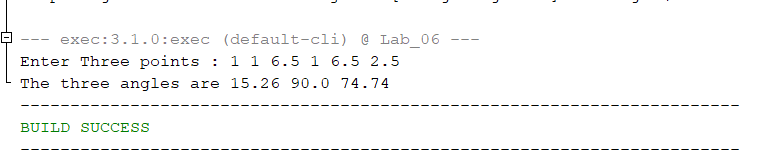
System.out.println("The three angles are " + Math.round(A \* 100) / 100.0 + " " + Math.round(B \* 100) / 100.0 + " " +

Math.round(C \* 100) / 100.0);

}

}

**Output :**



**Activity 2:**

**Code :**

package com.mycompany.lab\_06;

public class Activity\_02

{

public static void main(String[] args)

{

System.out.println("isDigit('a') is " + Character.isDigit('a'));

System.out.println("isLetter('a') is " + Character.isLetter('a'));

System.out.println("isLowerCase('a') is "+

Character.isLowerCase('a'));

System.out.println("isUpperCase('a') is "+

Character.isUpperCase('a'));

System.out.println("toLowerCase('T') is "+

Character.toLowerCase('T'));

System.out.println("toUpperCase('q') is "+

Character.toUpperCase('q'));

}

}

**Output :**

A screenshot of a computer code

Description automatically generated

**Activity 3 :**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Activity\_03 {

public static void main(String[] args)

{

Scanner input = new Scanner(System.in);

// Prompt the user to enter two cities

System.out.print("Enter the first city: ");

String city1 = input.nextLine();

System.out.print("Enter the second city: ");

String city2 = input.nextLine();

if (city1.compareTo(city2) < 0)

{

System.out.println("The cities in alphabetical order are " + city1 + " " + city2);

}

else

{

System.out.println("The cities in alphabetical order are " +city2 + " " + city1);

}

}

}

**Output :**

**A screenshot of a computer code

Description automatically generated**

**Activity :**

**Code :**

package com.mycompany.lab\_06;

public class Activity\_04

{

public static void main(String [] args){

String sentence;

String str1;

String str2;

String str3;

int index;

sentence = "Now is the time for the birthday party";

System.out.println("sentence = \"" + sentence + "\"");

System.out.println("The length of sentence = "+

sentence.length());

System.out.println("The character at index 16 in "+ "sentence = " + sentence.charAt(16));

System.out.println("The index of first t in sentence = "+ sentence.indexOf('t'));

System.out.println("The index of for in sentence = "+ sentence.indexOf("for"));

System.out.println("sentence.substring(0, 6) = \""+ sentence.substring(0, 6) + "\"");

System.out.println("sentence.substring(7, 12) = \""+ sentence.substring(7, 12) + "\"");

System.out.println("sentence.substring(7, 22) = \""+ sentence.substring(7, 22) + "\"");

System.out.println("sentence.substring(4, 10) = \""+ sentence.substring(4, 10) + "\"");

str1 = sentence.substring(0, 8);

System.out.println("str1 = \"" + str1 + "\"");

str2 = sentence.substring(2, 12);

System.out.println("str2 = \"" + str2 + "\"");

System.out.println("sentence in uppercase = \""+ sentence.toUpperCase() + "\"");

index = sentence.indexOf("birthday");

str1 = sentence.substring(index, index + 14);

System.out.println("str1 = \"" + str1 + "\"");

System.out.println("sentence.replace('t', 'T' ) = \""+

sentence.replace('t', 'T') + "\"");

}

}

**Output :**

A white paper with black text

Description automatically generated

**Task 1:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_01

{

public static void main (String [] args)

{

Scanner input= new Scanner(System.in);

System.out.print("Enter Latitude : ");

double x1=input.nextDouble();

System.out.print("Enter Longitude : ");

double y1=input.nextDouble();

System.out.print("Enter Latitude : ");

double x2=input.nextDouble();

System.out.print("Enter Longitude : ");

double y2=input.nextDouble();

double radius=6371.01;

x1=Math.toRadians(x1);

x2=Math.toRadians(x2);

y1=Math.toRadians(y1);

y2=Math.toRadians(y2);

double d=radius \* Math.acos(Math.sin(x1)\*Math.sin(x2)+Math.cos(x1)\*Math.cos(x2)\*Math.cos(y1-y2));

System.out.println("The distance between the two points is "+d+" km");

}

}

**Output :**

A screenshot of a computer code

Description automatically generated

**Task 2 a:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_02\_a

{

public static void main (String [] args)

{

Scanner input = new Scanner (System.in);

System.out.print("Enter Number bw 1 and 127 : ");

int number=input.nextInt();

if(number >=1 && number <=127)

{

char result=(char)number;

System.out.printf("Your Chracter for ASCI code %d is %c",number,result);

}

else

{

System.out.println("Wrong Input");

}

}

}

**Output :**

A close up of a code

Description automatically generated

**Task 2 b :**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_02\_b

{

public static void main (String [] args)

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

System.out.print("Enter Character to see UNI code : ");

String character =input.next();

char result=character.charAt(0);

int result2=(int) result;

System.out.printf("Your UNI Code for Charcater %c is %d",result,result2);

}

}

**Output :**

A screen shot of a computer code

Description automatically generated

**Task 3 a :**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_03\_a

{

public static void main (String [] args)

{

Scanner input= new Scanner (System.in);

System.out.print("Enter Number between 1 and 15 : ");

int number=input.nextInt();

if (number >=0 && number<=15)

{ char result='0';

if (number <10)

{

result= (char)(number+ '0');

}

else

{

switch(number)

{

case 10: result = 'A'; break;

case 11: result = 'B'; break;

case 12: result = 'C'; break;

case 13: result = 'D'; break;

case 14: result = 'E'; break;

case 15: result = 'F'; break;

}

}

System.out.println("Its Hexa value is "+result);

}

else

{

System.out.println("Wrong Input");

}

}

}

**Output :**

A screen shot of a computer code

Description automatically generated

**Task 3 b :**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_03\_b

{

public static void main(String[] args)

{

Scanner input= new Scanner(System.in);

System.out.print("Enter Hexa Decimal Digit : ");

String digit=input.next();

digit=digit.toUpperCase();

char oneDigit=digit.charAt(0);

int finalNumber=-999;

if (oneDigit=='A' || oneDigit=='B'|| oneDigit=='C' || oneDigit=='D' || oneDigit=='E'|| oneDigit=='F')

{

switch (oneDigit) {

case 'A':finalNumber=10;break;

case 'B':finalNumber=11;break;

case 'C':finalNumber=12;break;

case 'D':finalNumber=13;break;

case 'E':finalNumber=14;break;

case 'F':finalNumber=15;break;

default:System.out.println("Something wrong"); break;

}

}

else

{

int number = (int) (oneDigit-'0');

if (number>=0 && number<=9)

{

finalNumber=number;

}

else

{

System.out.println("Wrong Input");

return;

}

}

// now we have converted hexa to decimal now we will convert decimal to binary

System.out.print("Your output in Binary is ");

if (finalNumber==0)

{

System.out.print("0");

}

else

{

while (finalNumber>0)

{

int result=finalNumber%2;

finalNumber=finalNumber/2;

System.out.print(result);

}

}

}

}

**Output :**

A screen shot of a computer code

Description automatically generatedA screen shot of a computer code

Description automatically generated

**Task 4:**

**Code :**

package com.mycompany.lab\_06;

public class Task\_04

{

public static void main (String [] args)

{

double number=Math.random()\*26;

int finalNumber=(int)number;

char character = (char) (finalNumber +65);

System.out.println("Your Random Capital Letter is "+character);

}

}

**Output :**

A screen shot of a computer code

Description automatically generated

**Task 5:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_05

{

public static void main (String [] args)

{

Scanner input=new Scanner (System.in);

System.out.print("Enter Word to check it is Palindrom ot not : ");

String word=input.next();

int wordLength=word.length();

wordLength -= 1;

int length=wordLength/2;

length -=1;

boolean palindromeStatus=true;

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

{

char leftCharacter =word.charAt(i);

char rightCharacter=word.charAt(wordLength-i);

if (leftCharacter != rightCharacter)

{

palindromeStatus=false;

}

}

if (palindromeStatus== true)

{

System.out.println("Your Word in Palindrome");

}

else

{

System.out.println("Your word is not Palindrome");

}

}

}

**Output :**

A screenshot of a computer code

Description automatically generatedA screenshot of a computer code

Description automatically generated

**Task 6:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_06

{

public static void main(String[] args)

{

Scanner input=new Scanner(System.in);

System.out.print("Enter two words seprated by space : ");

String line=input.nextLine();

int spaceIndex=line.indexOf(" ");

String word1=line.substring(0, spaceIndex);

String word2=line.substring(spaceIndex+1);

System.out.printf("Your Correct answer is %s %s",word2,word1);

}

}

**Output :**

A screen shot of a computer code

Description automatically generated

**Task 7:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_07

{

public static void main(String[] args) {

Scanner input= new Scanner (System.in);

System.out.print("Enter Word : ");

String word=input.next();

int index1=word.indexOf('f');

int index2=word.lastIndexOf('f');

if ((index1>=0)&&(index1==index2))

{

System.out.println("Your answer is "+index1);

}

else if (index1<0)

{

}

else

{

System.out.printf("Your Answer is %s %s",index1,index2);

}

}

}

**Output :**

A computer code with text

Description automatically generated with medium confidence

**Task 8:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_08

{

public static void main (String [] args )

{

Scanner input= new Scanner (System.in);

System.out.print("Enter Line : ");

String line=input.nextLine();

int firstH=line.indexOf('h');

int lastH=line.lastIndexOf('h');

String left=line.substring(0, firstH);

String right=line.substring(lastH+1);

System.out.println("Your answe is : "+left+right);

}

}

**Output :**

A screenshot of a computer code

Description automatically generated

**Task 9:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_09

{

public static void main (String [] args)

{

Scanner input=new Scanner (System.in);

System.out.print("Enter Line : ");

String line=input.nextLine();

int firstIndex=line.indexOf('h');

int lastIndex=line.lastIndexOf('h');

String left=line.substring(0,firstIndex+1);

String right=line.substring(lastIndex);

String middle=line.substring(firstIndex+1,lastIndex);

middle=middle.replace('h', 'H');

System.out.print(left);

System.out.print(middle);

System.out.print(right);

}

}

**Output :**

A screenshot of a computer code

Description automatically generated

**Task 10:**

**Code :**

package com.mycompany.lab\_06;

import java.util.Scanner;

public class Task\_10

{

public static void main (String [] args)

{

Scanner input= new Scanner (System.in);

System.out.print("Enter your line or word : ");

String line=input.nextLine();

int length=line.length();

char first=line.charAt(2);

System.out.println(first);

char second=line.charAt(length-2);

System.out.println(second);

String third=line.substring(0,5);

System.out.println(third);

String fourth=line.substring(0,(length-2));

System.out.println(fourth);

for (int i=0 ; i<=(length-1);i++)

{

if (i%2==0)

{

char temp=line.charAt(i);

System.out.print(temp);

}

}

System.out.println("");

for (int j=1; j<=(length-1); j++)

{

if (j%2 !=0)

{

char temp=line.charAt(j);

System.out.print(temp);

}

}

System.out.println("");

for (int k=(length-1); k>=0;k--)

{

char temp=line.charAt(k);

System.out.print(temp);

}

System.out.println("");

for (int l=(length-1); l>=0;l-=2)

{

char temp=line.charAt(l);

System.out.print(temp);

}

System.out.println("\n"+length);

}

}

**Output :**

A screen shot of a computer

Description automatically generated