

Exercise (Java Basics)

1. Develop a program that takes the weight (in kilograms) and height (in meters) as input and calculates the BMI, then prints it.
   * Input: Weight (kg) = 70, Height (m) = 1.75
   * Expected Output: BMI = 22.86

Scanner s =new Scanner(System.*in*);  
 System.*out*.println("please enter the weight");  
 double weight =s.nextDouble();  
 System.*out*.println("please enter the length");  
 double length = s.nextDouble();  
 length =length/100;  
 double Mass = weight/(length\*length);  
 System.*out*.println(" Mass index "+Mass);

1. Write a program that takes the obtained marks and total marks as input and calculates the percentage, then prints it.
   * Input: Obtained Marks = 85, Total Marks = 100
   * Expected Output: Percentage = 85.0%
2. Create a program that takes an amount in one currency and an exchange rate as input, then converts and prints the amount in another currency.
   * Input: Amount in USD = 100, Exchange Rate (USD to EUR) = 0.85
   * Expected Output: Amount in EUR = 85.0
3. Create a program that takes a string as input, calculates its length, and then reverses the string using the **StringBuilder** class, finally printing both the length and reversed string.
   * Input: "Hello, World!"
   * Expected Output: Length of the string: 13 And Reversed string: "!dlroW

,olleH"

1. Develop a program that takes a sentence as input and extracts a substring from it, then prints the extracted substring.
   * Input: Sentence = "The quick brown fox jumps over the lazy dog", Start Index

= 10, End Index = 20

* + Expected Output: "brown fox"

1. Write a program that takes a sentence and a keyword as input, then check if the keyword is present in the sentence and prints the result.
   * Input: Sentence = "The quick brown fox jumps over the lazy dog", Keyword = "jumps"
   * Expected Output: Keyword "jumps" is present in the sentence.
2. Develop a program that takes a sentence and a word to replace as input, then replace all occurrences of the word with another word and prints the modified sentence.
   * Input: Sentence = "The quick brown fox jumps over the lazy dog", Word to Replace = "fox", Replacement Word = "cat"
   * Expected Output: "The quick brown cat jumps over the lazy dog"
3. Write a program that takes two strings as input and check if they are equal, ignoring the case, then prints whether they are equal or not.
   * Input: String 1 = "Hello", String 2 = "hello"
   * Expected Output: Strings are equal (ignoring case).

import java.util.Locale;  
import java.util.Scanner;  
  
public class Main {  
 public static void main(String[] args) {  
 System.*out*.println("the first Question");  
/\*1. Develop a program that takes the weight (in kilograms) and height (in meters)  
as input and calculates the BMI, then prints it.\*/  
 Scanner s =new Scanner(System.*in*);  
 System.*out*.println("please enter the weight");  
 double weight =s.nextDouble();  
 System.*out*.println("please enter the length");  
 double length = s.nextDouble();  
 length =length/100;  
 double Mass = weight/(length\*length);  
 System.*out*.println(" Mass index "+Mass);  
 ////////////////////////////////////////////////////////////  
 /\*2. Write a program that takes the obtained marks and total marks  
 as input and calculates the percentage, then prints it\*/  
 System.*out*.println("the second Question");  
 System.*out*.println("please enter the degree");  
 double degree =s.nextDouble();  
 System.*out*.println("please enter the total marks");  
 double total\_Marks =s.nextDouble();  
 double new\_marks = (degree/total\_Marks)\*100;  
 System.*out*.println("The last degree " + new\_marks+"%");  
 //////////////////////////////////////////////////////////  
 System.*out*.println("the third Question");  
 /\*3. Create a program that takes an amount in one currency and an exchange rate as input,  
 then converts and prints the amount in another currency\*/  
 System.*out*.println("please enter USD");  
 double USD =s.nextDouble();  
 USD =(USD/100)\*85;  
 System.*out*.println("the EUr= "+USD);  
  
 /\*4. Create a program that takes a string as input, calculates its length, and then reverses the string using the StringBuilder class,  
 finally printing both the length and reversed string.\*/  
 System.*out*.println("the fourth Question");  
  
 String message = "Hello, World!";  
 int count = message.length();  
 String new\_message= "";  
 for (int i =count -1 ;i >=0 ;i--){  
 new\_message +=message.charAt(i);  
 }  
 System.*out*.println("length of message =" +count);  
 System.*out*.println("new message: "+ new\_message);  
 ////////////////////////////////////////////////////  
 /\*5. Develop a program that takes a sentence as input and extracts a substring from it,  
 then prints the extracted substring.\*/  
 System.*out*.println("the Fifth Question");  
  
 String inp ="The quick brown fox jumps over the lazy dog";  
 System.*out*.println(inp.subSequence(10,20));

/\*6. Write a program that takes a sentence and a keyword as input,  
 then check if the keyword is present in the sentence and prints the result.\*/  
 System.*out*.println("the VI Question");

System.*out*.println(inp.contains("jumps"));  
/\*7. Develop a program that takes a sentence and a word to replace as input,  
 then replace all occurrences of the word with another word and prints the modified sentence.\*/  
 System.*out*.println("the seven Question");  
 System.*out*.println(inp.replace("fox" ,"cat"));  
/\*8. Write a program that takes two strings as input and check if they are equal, ignoring the case,  
then prints whether they are equal or not.\*/  
 System.*out*.println("the Eighth Question");  
  
 String firstName = "yousef";  
  
 System.*out*.println(firstName.equalsIgnoreCase("YOUSEF"));  
  
  
  
  
 }  
}