The difference between stupidity and genius is that genius has its limits. Albert Einstein

Homework 03

[String and Math Functions, General Programming Practice]

Note 1: Output is made clear by showing boxes so that spaces can be counted.

Note 2: Don’t do hard coding in task use formulas and functions to generalize your programs.

Note 3: In task 7 output on right hand side is of two different runs of the program

Task 1:

Complete code written inside main function to show output given on right hand side?

```java
String space = " ";
System.out.println("*");
System.out.println("*"+space.substring(0,0)+"*");
```

Task 2:

Complete code written inside main function to show output given on right hand side?

```java
String space = " ";
System.out.println("*");
System.out.println("*"+space.substring(0,0)+"*");
```

Use Random Function for Next 3 Tasks

Task 3

Print 5 real values between 200 and 300

Task 4

Print 5 integer values between -200 & -100

Task 5

Print 5 capital alphabets

Help: Capital alphabets have ASCII code from 65 to 90. Type cast in char to show alphabet like

```java
System.out.println((char)65); // will show A as output
```

Task 6

Write a program to take full name as input from user using `nextLine` method of Scanner class. Full name includes first name & last name like "Muhammad Hamid". Take two String variables `firstName` & `lastName`. Assign first part of name in `firstName` & second part in `lastName`. Finally display them in separate line. Don’t hard code use appropriate functions from String class.

Task 7:

Write program to calculate quadratic roots using formula $\frac{-b+\sqrt{b^2-4ac}}{2a}$ and $\frac{-b-\sqrt{b^2-4ac}}{2a}$. Take a, b, c as double values from user, calculate x1, x2 roots and display answer. See the sample run on right hand side.