

Panel 1

Task 1 Warmup: Write a method to convert degree Celcius to degree Fahrenheit and return converted temp.

Formula: $F = \frac{9}{5} \cdot C + 32$

Method: Get user input = c

conversion, $F = \frac{9}{5} \cdot C + 32 = F$

return F

```
H-      public static double convert(double C)
        {
            return (9.0/5.0)*C + 32.0;
        }
```

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Panel 2

Task 1: Convert a string to uppercase and return converted string
(You may not use the builtin "toUpperCase" method)

Hint: 'A' = 65, 'Z' = 90, 'a' = 97, 'z' = 122

Describe your method in words only, no java

```
public static String uppercase (String input)
- convert each character to ASCII codes
- if ASCII codes is between 97 and 122,
  then subtract 32 from each
  else do nothing
- convert ASCII back to character
- return new string
```

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Panel 3

Task 1: Convert a string to uppercase and return converted string
(You may not use the builtin "toUpperCase" method)

Hint: 'A' = 65, 'Z' = 90, 'a' = 97, 'z' = 122

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Panel 4

Task 2 Warmup: Write a method to convert degree Fahrenheit to degree Celsius and return converted temp.

Formula: $C = \frac{5}{9}(F - 32)$

```
public static double convert (double f)
{
    return double c = 5.0/9.0 (f - 32);
}
```

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Panel 5

Task 2: Convert a string to lowercase and return the converted string
(you may not use the built-in "toLowerCase" method)

Hint: 'A' = 65, 'Z' = 90, 'a' = 97, 'z' = 122
Describe your methods in words only, no Java

get input string

take each character in string and enter them into a conversion method by using a loop

- if the value of a character is greater than or equal to 97: do nothing
- if the value is less than 97, add 32 to convert

return the converted string

display

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Panel 6

Task 2: Convert a string to lowercase and return the converted string
(you may not use the built-in "toLowerCase" method)

Hint: 'A' = 65, 'Z' = 90, 'a' = 97, 'z' = 122

```
public class Lowercase
{
    public static String getInput()
    {
        System.out.print("Enter string to convert to lowercase: ");
        String input = Console.readString();
        return input;
    }
    public static char convertChar(char c)
    {
        int numberChar = (int) c;
        if ((numberChar >= 91) || (numberChar < 65))
        {
            c = c;
        }
        else
        {
            numberChar += 32;
            c = (char) numberChar;
        }
        return c;
    }
    public static void main(String args[])
    {
        String input = getInput();
        String lowercase = "";
        char c = 'a';
        for (int i = 0; i < input.length(); i++)
        {
            c = input.charAt(i);
            lowercase += convertChar(c);
        }
        System.out.println("The message in lowercase is: " + lowercase);
    }
}
```

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Panel 7

Task 3 Warmup: Write a method to convert inches to cm
and return the converted length.

Formula: $C = \frac{100}{254} \cdot I$

```
public static double Formula (double I)
{
    return  $\frac{100.0}{254.0} I$ ;
}
```

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Panel 8

Task 3: Remove leading spaces from a string and return "cleaned" string

Hint: A loop might work well, but which kind?

Describe your method in words only, no Java

```
public static String clear (String input)
{
    Look at the  $i^{th}$  char and
    if it is a space do nothing ✓
    if it is not a space add it to
    another string.
}
```

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Panel 9

Task 3: Remove leading spaces from a string and return "cleaned" string

Hint: A loop might work well, but which kind?

```
public class ClearSpaces
{
    public static String getInput()
    {
        System.out.println("Enter string: ");
        String input = Console.readString();
        return input;
    }

    public static String clear(String input)
    {
        String newString = "";
        for(int i = 0; i < input.length(); i++)
        {
            char x = input.charAt(i);
            if(x != ' ')
            {
                newString = newString + x;
            }
        }
        return newString;
    }

    public static void main(String args[])
    {
        String input = getInput();
        String newString = clear(input);
        System.out.println(newString);
    }
}
```

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Panel 10

Task 4 Warmup: Write a method to convert cm to inches and return converted length.

$$\text{Formula: } I = \frac{2.54}{100} \cdot C$$

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Panel 11

Help for Code / Decode:

```
public class Coding
{
    public static boolean upperCase(char c)
    {
        // CHANGE THIS METHOD
        return true;
    }
    public static char shiftChar(char c, int shift)
    {
        // CHANGE THIS METHOD
        int numberChar = (int) c;

        if (upperCase(c))
        {
            numberChar += shift;
            c = (char) numberChar;
        }
        return c;
    }
    public static String shiftString(String input, int shift)
    {
        String lowercase = "";
        char c = 'a';
        for (int i = 0; i < input.length(); i++)
        {
            c = input.charAt(i);
            lowercase += shiftChar(c, shift);
        }

        return lowercase;
    }
    public static void main(String args[])
    {
        String s = "Test String";
        System.out.println(s);
        String t = shiftString(s, 10);
        System.out.println(t);
        String r = shiftString(t, -10);
        System.out.println(r);
    }
}
```