

Date.....

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## DSA LAB - 2

Algorithm

1) A. Step 1 : Start

Step 2 : Initialize variable amount

Step 3 : READ amount

Step 4 : Print amount -  $(0.10 * \text{amount}) - (0.03 * \text{amount})$   
 $- (0.02 * \text{amount}) - (0.0278 * \text{amount}) - (0.06 * \text{amount})$ 

Step 5 : Print / display all tax deductions (if needed)

Step 6 : Stop

3) A. Step 1 : Start

Step 2 : Initialize variables fahrenheit, celsius

Step 3 : READ fahrenheit

Step 4 :  $\text{celsius} = (5/9) * (\text{fahrenheit} - 32)$ Step 5 : Print celsius as temperature converted  
from fahrenheit to celsius

Step 6 : Stop



## Theory

1) A. Step 1 : start

Step 2 : Initialize two variables num1, num2.

Step 3 : READ num1, num2.

Step 4 :  $\text{num1} = \text{num1} + \text{num2}$ .

Step 5 :  $\text{num2} = \text{num1} - \text{num2}$

Step 6 :  $\text{num1} = \text{num1} - \text{num2}$

Step 7 : PRINT num1, num2.

Step 8 : Stop

2) A. Step 1 : start

Step 2 : Initialize two variables num1, num2.

Step 3 : READ num1, num2.

Step 4 : If  $\text{num1} > \text{num2}$ .

Print num1 is largest number

otherwise

Print num2 is largest number

step 5 : Stop.



3)A. Step 1: Start

Step 2: Initialize variable num1.

Step 3: READ num1.

Step 4: If  $\text{num1} \% 2 = 0$

Print num1 is an even number.

otherwise

Print num1 is an odd number.

Step 5: Stop.

4)A. Step 1: Start

Step 2: Initialize variable i, ~~and~~ sum=0 and n.

Step 3: READ n.

Step 4:  $i = 0$

Step 5: DO

~~Sum~~ = Sum + i

$i = i + 1$

UNTILL  $i \leq n$

Step 6: Print sum as the sum of first n natural numbers.



- 5) A.
- a) one output is required for this programming problem which is distance in miles
  - b) This problem have two inputs average speed and time

c)

Step 1: Start

Step 2: Initialize Variables speed, time, distance.

Step 3: READ speed, time

Step 4:  $\text{distance} = \text{speed} * \text{time}$

Step 5: convert distance into miles

Step 6: Print distance in miles

Step 7: Stop