**TUTORIAL (1)**

Q1: Write the Algorithm and the Flow chart to computes the sum, average and product of three numbers:

![Algorithm and Flowchart for Q1](image)

Q2: Write the Algorithm and the Flow chart to reads two numbers and displays the numbers read in decreasing order.

![Algorithm and Flowchart for Q2](image)
Q3: Write a program with a number (n) as its input which calculates the following formula and writes the result:

\[ S = \frac{1}{2} + \frac{1}{4} + \frac{1}{6} + \frac{1}{8} + \ldots + \frac{1}{n} \]

INPUT “Enter the number”; N

K = 2
S = 0
40 S = S + 1/K
K = K + 2
IF K <= N THEN
  GOTO 40
ELSE
  PRINT “The sum =”; S
END IF

Q4: Design an algorithm and the corresponding flowchart for adding the test scores as given: 26, 49, 98, 87, 62, 75

a) Algorithm:
1. Start
2. Sum = 0
3. Get the first testscore
4. Add first testscore to sum
5. Get the second testscore
6. Add to sum
7. Get the third testscore
8. Add to sum
9. Get the fourth testscore
10. Add to sum
11. Get the fifth testscore
12. Add to sum
13. Get the sixth testscore
14. Add to sum
15. Output the sum
16. Stop
Or in a shorten way:

1. Start
2. Sum = 0
3. Get a value
4. sum = sum + value
5. Go to step 3 to get next Value
6. Output the sum
7. Stop

Exercise: Predict the output of the following programs and actually carry out the coding.

1. PRINT 16-10+4
2. PRINT 20+7*2
3. PRINT 5*3-2
4. PRINT 16-7*2
5. PRINT (16-7)*2
6. PRINT 14-6/2
7. PRINT 10^2
8. PRINT (5+2)^2
9. PRINT 5+3^2
10. PRINT 5^3+2
11. PRINT 2^3*5
12. PRINT 5^(2+1)
13. PRINT 5+9-7+12
   PRINT 12*6-5*4
   PRINT 12*(6-5)*4
   PRINT 12/6*0.5
   END
14. PRINT 5*4+7-12
    PRINT 3*12/4-5
    PRINT 5+18/2-9
    PRINT 10*15-36/4
    END

15. PRINT 9*4/6+3
    PRINT 9*4/(6+3)
    PRINT 12-4/2+2
    PRINT (12-4)/2+2
    END

16. PRINT (3^2+8)/2
    PRINT 3^2+8/2
    PRINT 3^(2+8/2)
    PRINT (9*5+15)/(2^3)
    END

Q5: Write a program to find the result of the equation below:

\[ q = a^3 + \frac{3ab}{7} + 2\sqrt{b} \]

INPUT a,b
q=a^3+(3*a*b/7)+2*sqr(b)
PRINT q
END

Q6: Write a program to calculate the area and circumferential of rectangle shape.

INPUT a,b
LET AREA=a*b
LET CIR=(a+b)/2
PRINT AREA, CIR
END

Q7: Write a program to calculate the area of circle.

CLS
pi! = 3.1415
INPUT "What is the radius of the circle? ", radius!
area! = pi! * radius! ^ 2
PRINT "The area of the circle is ", area!
END

Q8: This program converts the temperature from Celsius to Fahrenheit:

CLS
INPUT "How many degrees Celsius"; c
PRINT c; "degrees Celsius ="; c * 1.8 + 32; "degrees Fahrenheit"
END

Q9: Check TRUE and FALSE for the following statements:

a%=1: b%=2: c%=3
a% < c% AND c% >= a% + b%             TRUE AND TRUE ⇒ TRUE
c% >= a% + b% AND c% < a               TRUE AND FALSE ⇒ FALSE
c% < a AND b% = a% * 3             FALSE AND FALSE ⇒ FALSE
c% >= a% + b% OR c% < a               TRUE OR FALSE ⇒ TRUE
c% < a OR b% = a% * 3               FALSE OR FALSE ⇒ FALSE
NOT (c% - b% = a%)                  NOT (TRUE) ⇒ FALSE
NOT (b% >= c%)                      NOT (FALSE) ⇒ TRUE