JAFFNA HINDU COLLEGE

Risk Holiday Self - Education Worksheet - 2020

Grade – 11 | Information and Communication Technology

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Unit-1 – Programming

1. What do you meant by an algorithm?
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………

2. Write an algorithm in step by step to prepare a fruit juice.
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………

3. Write the control structures of an algorithm and give an example for each one.
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………

4. Write the tools used to presents an algorithm.
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   ……………………………………………………………………………………………

5. State symbols and their meanings which are used in flow chart.
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   ……………………………………………………………………………………………

6. What is the purpose of writing a pseudocode?
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   ……………………………………………………………………………………………

7. **Draw the flow chart** to represent the following pseudocode.

   ```
   BEGIN
         INPUT a mark (m)
         IF m>=75 THEN
                DISPLAY "Merit"
         ELSE
                IF m>=50 THEN
                       DISPLAY "Pass"
                ELSE
                       DISPLAY "Weak"
                ENDIF
         ENDIF
   END
   ```

8. For the purpose of calculating total and average of the marks for the nine subjects of a student who are in Grade-11. We have to enter the marks one at a time and at the end it should display total and average. Complete the blank lines in the following flow chart for the above calculation.
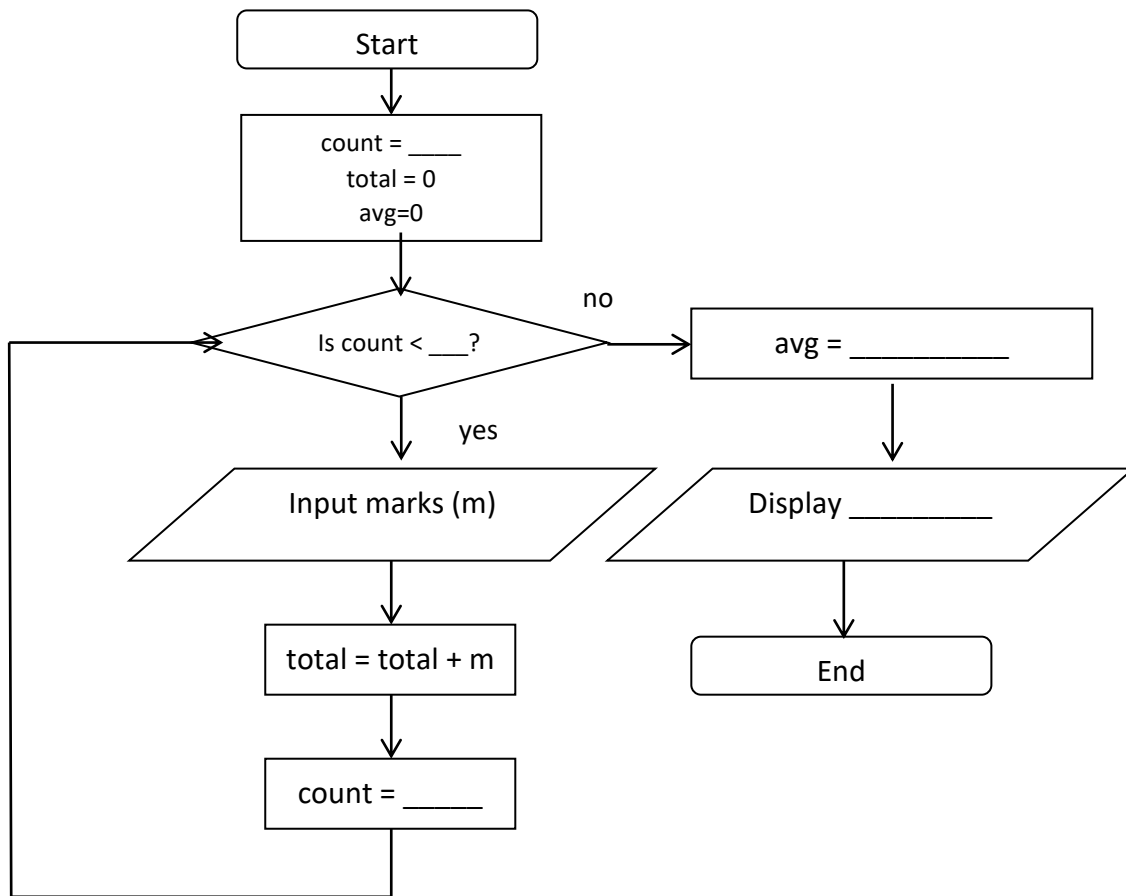
9. Write the relevant **pseudocode** for the above completed flow chart.

10. Write the **output** of the following flowchart and convert into pseudocode.
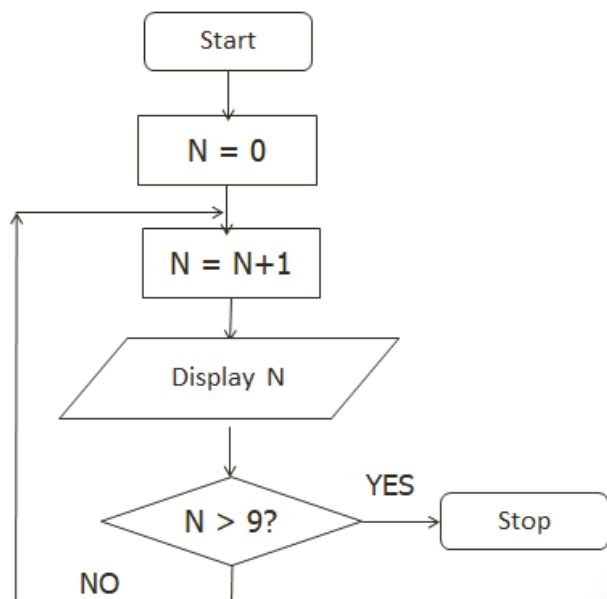
11. Write the **output** of the following pseudocode segments.

```
BEGIN
        S = 1
        WHILE S < = 10
                DISPLAY S
                S = S+3
        END WHILE
END
```

```
BEGIN
        a = 0
        REPEAT
                DISPLAY "Hello"
                a = a+1
        UNTIL a > 5
        WHILE a>=4
                DISPLAY "Hello"
                a = a – 1
        END WHILE
END
```

```
BEGIN
        n = 0
        REPEAT
                DISPLAY n
                n = n+1
        UNTIL n>10
END
```

```
BEGIN
        P = 0
        REPEAT
                Q = P MOD 2
                IF Q = 1 THEN
                        DISPLAY '$'
                ENDIF
                P = P + 1
        UNTIL P > 5
END
```

```
BEGIN
        FOR P = 1 TO 12
                DISPLAY P*2
        NEXT P
END
```

12. Following flowchart shows the way of converting the temperature from Celsius to Fahrenheit. Write the relevant pseudocode of the following flowchart **which include in less lines**.

START

INPUT Temperature as C

F = 9 * C

F = F / 5

F = F + 32

DISPLAY F

END
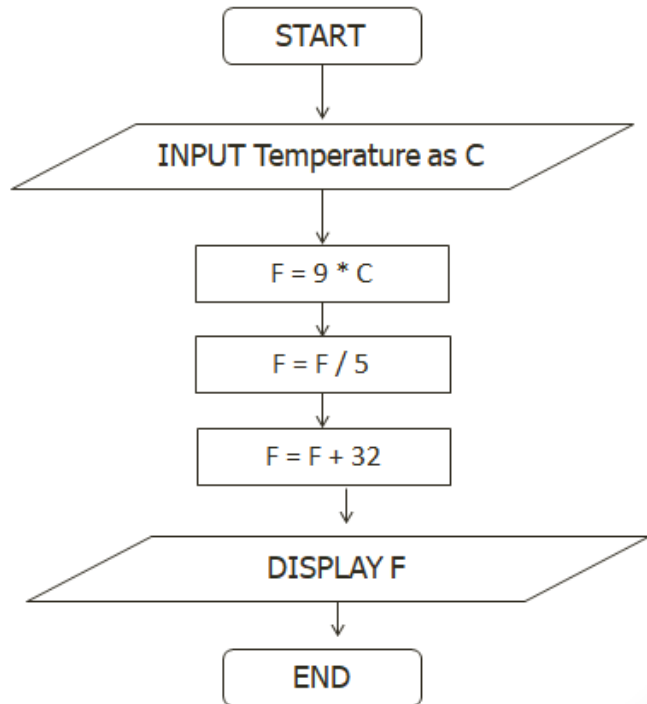
13. Write a **pascal statement** to create **two variables** named as X,Y and these variables should store any two whole numbers.

14. Write the **pascal code** to assign values of 80, 98 to variables which you created in the above question.

15. Identify the **valid pascal variable names** in the following.

      I.   name
     II.   age
    III.   subject name
     IV.   1stNumber
      V.   var
     VI.   my_name
    VII.   a
   VIII.   _ExamID
     IX.   what?
      X.   i3#Gen8

16. Write the **data types** to represent the data in pascal programming and give an example for each one.

17. Write an **output** of the following pascal statements.

      I.   3 * 5 DIV 2 MOD 3
     II.   9 MOD 3/10 DIV 4
    III.   NOT(6 = 6) OR 70 < 80 AND 4< >5

18. Explain the **each line** of the following pascal program.

```
program sumNums(input,output);
var a,b:integer;
Begin
        a:=200;
        b:=300;
        {calculate the total of two numbers}
        writeln(a+b);
End.
```

19. Write a **pascal program** to find and display the largest number of any two numbers.

20. Write the **pseudocode** to calculate and display the total of even numbers from 1 to 50. (including 50)

21. What is the **output** of the following pascal program named as findNums, by providing numbers 4,5,2,-1 as one by one.

```
program findNums(input,output);
var terminal,x,num:integer;
begin
    terminal:= -1;
    x:=0;
    Repeat
       writeln('Enter a number');
       Readln(num);
       writeln();

       if num>x then
         x:=num;
    Until num=terminal;
    writeln(x);
end.
```

22. **var vehicle:array[0..19] of integer;**

   How many data will be saved in the above array called 'vehicle' and write the data type of the array.

23. Write a **pascal code** to create an array called 'marks' which hold the marks of six subjects and assign marks of 80,70,60,65,75,57 into the array and display the total of marks.

24. Explain the machine language, assembly language and high level language in programming languages.

25. Why do we need compilers and interpreters while using high level programming languages?

   Write the differences between compilers and interpreters.

Unit-2 - System Development Life Cycle

1) Write the definition of a system.
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    ……………………………………………………………………………………………

2) Write the basic components of a system.
    Write down the above components to match the electricity bill calculation system.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

3) What do you meant by information system?
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    ……………………………………………………………………………………………

4) State the limitations of using manual information system.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

5) Write are the advantages of converting a banking entire operations into a computer based information system.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

6) System development life cycle consists of a set of steps. Write down the steps in order and give the functions in each of the phase.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

7) Write the data gathering methods that can be used to identify requirements of the new system.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

8) State the order of testing for the developed information system.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

9) Which implementation method has low risk of direct or parallel when using a new system? Explain your answer.
    ……………………………………………………………………………………………
    ……………………………………………………………………………………………

10) Write the system development models which are suitable for following conditions.

    a) Model that are develop a system which identify the requirements well and complete one stage before going to the next stage.

    b) Develop one small component at a time in an iterative fashion. Each iteration develops more components of the system.

    c) It cannot change the requirements while developing the system.

    d) It can change the requirements easily while developing the system.

    e) The user can collect the final system at the end of the all each stages are completed.

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