Quiz 6

(20 points)

Name   :
Course No   :   **CSCE101**

1. (3 points) For each of the following ways to classify networks, give an example of one of the classifications.

   (a) Example: Transmission Media – *Copper wire, Optical Fiber, Wireless*

   (b) Size –

   (c) Topology –

   (d) Communication Model –

2. (3 points) For each of the network layers (Application, Transport, Network, Link), answer the following question:

   • This layer routes packets to the correct location:

   • The HTTP protocol is used by this layer:

   • This layer uses the CSMA/CD or Token Ring protocol:

3. (2 points) Name two ways in which an algorithm can be represented.

   (a)

   (b)

4. (1 points) What pseudocode construct is used to choose between **two** alternatives?

5. (1 points) In your own words, give a simple definition of an algorithm.

6. (4) Write a function called PRODUCT_LIST that takes as input a list (call it X) and two integers (called low and high), and returns the product of all list elements from X[low]$\cdots$ X[high]. For example, given the list Q = $\{2, 4, 9, 2, 12, 4\}$, the function call PRODUCT_LIST(Q, 0, 3) returns 144 (the product of $2 \times 4 \times 9 \times 2$).

7. (6 points) Given the following items:

```
X = { 12, 43, 2, 5, 16, 27 }

Y = { 23, 17, 1, 9, 5, 8 }
```

  (a) Write a routine called `SWAP` that will allow the calling function (you) to switch elements between the lists `X` and `Y`. (*Hint: This will need 4 inputs: Two lists and two indices.*)

  (b) In the following function, use your routine to place all numbers less than 10 into array `Y`, and all numbers greater than 10 into `X`.

```
STUDENT_SWAP(X, Y) {
    // X, Y are lists as defined above.



}
```