

Data Structures
CS 246 - 040
Quiz 02 Solutions

- a. What is an interface?

Solution:

an interface is an abstract class that contains only pure virtual methods.

- b. Find the runtime function of the function below. Assume the processing cost is 1 for all statements

```
int D(int data[],int n)
{
    int s = 0;

    for(int i = 1;i < n;i += 2)
    {
        s += data[i-1] * data[i];
    }
    return s;
}
```

Solution:

$$T(n) = 3(n/2) + 1$$

- c. Write the getter and setter methods for the field of the class below.

```
class B
{
    private:
    double y;
};
```

Solution:

```
double GetY() const
{
    return y;
}

void SetY(double value)
{
    y = value;
}
```

- d. Write the header of an overloaded subscript operator that allows both read and write access to the elements of an int array field.

Solution:

```
int& operator[](int index)
```