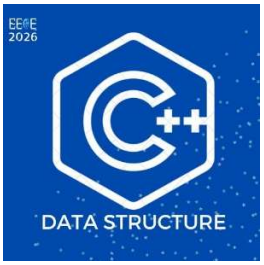

EECE26 Team

QUIZ 1 SOLUTION for Data-structure

BY DATA STRUCTURE TEAM 26

QUIZ 1 SOLUTION EECE 26:

Q1)

```
#include<iostream>
using namespace std;
const int MAX = 20;

int fun(int n)
{
static int memory[MAX] = {0};
memory[0] = 0;
memory[1] = 1;
if(memory[n] == 0 & n>1)
{
memory[n]=memory[n-1]+memory[n-2];
return memory[n];
}
else
return memory[n];
}

int main()
{
for (int i = 0; i < 10; i++)
{
cout<<fun(i)<<" ";
}
return 0;
}
```

1

2

A) (1)n>1

(2)memory[n]=memory[n-1]+memory[n-2];

B) OUTPUT: 0 1 1 2 3 5 8 13 21 34

C) Incorrect, it will cause an overflow as the value of memory function will exceed the limits of integer

```
#include<iostream>
#include<string.h>
using namespace std;


int main()
{
    string word ;
    cin>> word;
    int arr['z'+1]={0}; // dont use array before it
instiallization to avoid error
    for(int i=0;i< word.length();i++)
    {
        arr[word[i]]++;
    }
    for(char i= 'a' ;i<='z';i++) // ascii code  upper
case then lower case
    {
        if(arr[i]!=0 || arr[i-32]!=0)
        {
            cout<<i<<" "<<arr[i]+arr[i-32]<<endl;
        }
    }
}
```

Q2:

```cpp
#include<iostream>
#include<string>
using namespace std;
void fun(string s,int arr[])
{
    int index;
    for (int i = 0; s[i] != 0; i++)
    {
        index = s[i] - 'a';
        arr[index]++;
    }
    for (int i = 0; i < 26; i++)
    {
        if (arr[i] > 0)
        {
            cout << char('a' + i) << " " << arr[i] << endl;;
        }
    }
}
void lower(string &s)
{
    for (int i = 0; s[i] != 0; i++) {
        if (s[i] >= 'A' && s[i] <= 'Z')
        {
            s[i] = s[i] + ('a' - 'A');
        }
    }
}
int main()
{
    int arr[26] = { 0 };
    string s;
    cin >> s;
    lower(s);
    fun(s,arr);

}
```