شایان گلمحمدی – تهران مرکز – ورودی 99 – یکشنبه ساعت 7:30

تمرینات فصل array و string :

تمرین ها :

۱-

```
{2,7,6,11,10}
```

۲-

```
{5,6,9,19,23}
```

۳-

```cpp
#include <iostream>
#include <iomanip>
using namespace std;
int main(){
   cout<<endl;
   int list[50];
   for (int i=0;i<50;i++){
     if (i<25){
        list[i]=i*i;
     } else {list[i]=i*3;}
   }
   int j=0;
   for (int i=0;i<50;i++){
     if (j==10){
        cout <<endl;
        j=1;
     } else {j++;}
     cout<<setw(4)<<list[i]<<" ";
   }
   cout<<endl;
   return 0;
}
```

```
  0    1    4    9   16   25   36   49   64   81
100  121  144  169  196  225  256  289  324  361
400  441  484  529  576   75   78   81   84   87
 90   93   96   99  102  105  108  111  114  117
120  123  126  129  132  135  138  141  144  147

Press any key to continue . . .
```

```cpp
#include <iostream>
#include <iomanip>
using namespace std;
int main()
{
   cout<<endl;
   int ar,ac=0,br=1,bc;
   while (ac!=br){
     cout<<"notice that first matrix column should be equal to second matrix row !"<<endl;
     cout<<"first matrix row and column : ";
     cin>>ar>>ac;
     cout<<"second matrix row and column : ";
     cin >>br>>bc;
   }
   int a[ar][ac],b[br][bc],c[ar][bc];
   cout<<endl<<"first matrix:"<<endl;
   for (int i=0;i<ar;i++){
     for (int j=0;j<ac;j++){
       cin >> a[i][j];
     }
   }
   cout<<endl<<"second matrix:"<<endl;
   for (int i=0;i<br;i++){
     for (int j=0;j<bc;j++){
       cin >> b[i][j];
     }
   }
   for (int i=0;i<ar;i++){
     for (int j=0;j<bc;j++){
       c[i][j]=0;
       for (int k=0;k<ac;k++){
         c[i][j] += a[i][k] * b[k][j];
       }
     }
   }
   cout<<endl<<"   ___";
   for (int i=0;i<=5*bc+-6;i++){cout<<" ";}
   cout<<"___"<<endl;
   cout<<"|";
   for (int i=0;i<=5*bc;i++){cout<<" ";}
```

```cpp
   }
   cout<<endl<<"second matrix:"<<endl;
   for (int i=0;i<br;i++){
     for (int j=0;j<bc;j++){
       cin >> b[i][j];
     }
   }
   for (int i=0;i<ar;i++){
     for (int j=0;j<bc;j++){
       c[i][j]=0;
       for (int k=0;k<ac;k++){
         c[i][j] += a[i][k] * b[k][j];
       }
     }
   }
   cout<<endl<<"   ___";
   for (int i=0;i<=5*bc+-6;i++){cout<<" ";}
   cout<<"___"<<endl;
   cout<<"|";
   for (int i=0;i<=5*bc;i++){cout<<" ";}
   cout<<"|"<<endl;
   for (int i=0;i<ar;i++){
     for (int j=0;j<bc;j++){
       if (j==0){
         cout<<"|"<<setw(4)<<c[i][j]<<" ";
       } else if (j==bc-1){
         cout<<setw(4)<<c[i][j]<<" |";
       } else {cout<<setw(4)<<c[i][j]<<" ";}
       if (j==bc-1){
         cout<<endl;
       }
     }
   }
   cout<<"|___";
   for (int i=0;i<=5*bc-6;i++){cout<<" ";}
   cout<<"___|"<<endl;
   return 0;
}
```

```
notice that first matrix column should be equal to second matrix row !
first matrix row and column  : 3 2
second matrix row and column : 2 3

first matrix:
1 2
3 4
5 6

second matrix:
2 4 6
6 4 2

  _____
 |  14   12   10 |
 |  30   28   26 |
 |  46   44   42 |
  _____

Press any key to continue . . .
```

```
1   #include <iostream>
2   #include <iomanip>
3   using namespace std;
4   int main()
5   {
6     cout<<endl;
7     int a[6];
8     bool x=true;
9     cout<<"input : ";
10    for (int i=0;i<6;i++){
11      cin>>a[i];
12    }
13    for (int i=0;i<6;i++){
14      if (a[i]!=a[5-i]){
15        x=false;
16      }
17    }
18    cout<<endl;
19    if (x==false){
20      cout<<"NO";
21    } else {cout<<"YES";}
22    cout<<endl;
23    return 0;
24  }
```

```
input : 9 6 3 3 6 9

YES

Press any key to continue . . .
```

```cpp
#include <iostream>
#include <iomanip>
using namespace std;
int main()
{
    cout<<endl;
    int ar=0,ac=1;
    bool x=true;
    while (ac!=ar){
        cout<<"notice that matrix column should be equal to matrix row !"<<endl;
        cout<<"row : ";
        cin>>ar;
        cout<<"column : ";
        cin >>ac;
    }
    int a[ar][ac];
    cout<<endl<<"Input matrix:"<<endl<<endl;
    for (int i=0;i<ar;i++){
        for (int j=0;j<ac;j++){
            cin >> a[i][j];
        }
    }
    for (int i=0;i<ar;i++){
        for (int j=0;j<ac;j++){
            if (a[i][j] != a[j][i]){x=false;}
        }
    }
    if (x==true){
        cout<<endl<<"YES"<<endl;
    } else {cout<<endl<<"NO"<<endl;}
    return 0;
}
```

```
notice that matrix column should be equal to matrix row !
row : 3
column : 3

Input matrix:

1 2 3
2 0 4
3 4 5

YES
```

-V

```
Going to the Amusement Park
14
10
musem
ABCDEFGHIJK
11
aBdDEFGHIJK
```

```cpp
 1   #include <iostream>
 2   #include <string>
 3   using namespace std;
 4   int main()
 5   {
 6     cout<<endl;
 7     string a,b;
 8     int n;
 9     cout<<"Input the text :"<<endl;
10     getline(cin,a);
11     n=a.length();
12     cout<<b;
13     for (int i=0;i<n;i++){
14       if (a[i]=='a'||a[i]=='e'||a[i]=='i'||a[i]=='o'||a[i]=='u'||a[i]=='A'||a[i]=='E'||a[i]=='I'||a[i]=='O'||a[i]=='U'){
15         if (i==0){
16           a=a.substr(1,n-1);
17           i--;
18         } else if (i!=0) {
19           a=a.substr(0,i)+a.substr(i+1,n);
20           i--;
21         }
22       }
23       n=a.length();
24     }
25     cout<<endl<<a<<endl;
26     return 0;
27   }
```

```
Input the text :
Salam Usher khoobi ?

Slm shr khb ?

Press any key to continue . . .
```