Sheet 4 – Vectors and Arrays

1. Consider the following program fragment:

```
int a [10];
int i;
for(i = 0; i<10; i++)
       a[i] = i*i;
for(i = 0; i<10; i++)
       cout << a[i];
```

What will this program fragment display?

2. Write code segment using vectors to read 10 floats and print
   a. The maximum
   b. The minimum
   c. The Average

3. Consider the following arrays that stores student names and their grades respectively (i.e Ahmed has grade 15 and Ali has grade 17)

```
string names[5] = {"Ahmed", "Ali", "Doaa" , "Mohamed" ,"Osama"};
float grades[5] = {15,17,10,12,16};
```

   a. Write code segment to read a name from user and find and print his/her grade
   b. Write code segment to print the name of the student with the highest grade.

4. Consider the following program fragment:

```
int a[5][5];
int i,j;
for(i=0;i<5;i++) {
     for(j=0;j<5;j++)
          a[i][j]=i+j;

for(i=0;i<5;i++)
     cout<< a[i][i];
```

What will this program fragment display?

5. Write a program to read positive integers till the user enter negative value. After the negative value is detected, the program displays the largest three integers entered by the user.

   You can assume that the user can enter up to 100 positive number, but he/she can enter less than 100 number followed by the negative value.