C++ 102 final exam

1) Write a program to compute the average of CS102 students.
- Print a welcome statement "Welcome to CS102 Course "
- Ask the user if he/she wants to add more grades .The user should answer Y/N.
- If the answer is Y, then ask the user to insert the student's name & his grade.
- If the answer is N or any other character then print the average.
- The program will keep asking the user if he/she wants to add more grades.

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--------Sample Run1 :
Welcome to CS102 Course

Do you want to add more grades (Y/N): Y
Enter the student name: Ali
Enter the grade: 90

Do you want to add more grades (Y/N):Y
Enter the student name: Ahmed
Enter the grade: 55

Do you want to add more grades (Y/N):Y
Enter the student name: Huda
Enter the grade: 82

Do you want to add more grades (Y/N):N

The average of this course is 75.66

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--------Sample Run2 :
Welcome to CS102 Course

Do you want to add more grades (Y/N): Y
Enter the student name: Yazan
Enter the grade: 72

Do you want to add more grades (Y/N):N

The average of this course is 72

--------Sample Run3 :
Welcome to CS102 Course

Do you want to add more grades (Y/N): N

The average of this course is 0

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2) Write a program that prompts the user to insert three numbers two numbers that represent length & width of a rectangle. Then send <u>each</u> number to a <u>void</u> function CHECK that if the number is positive or not. If the number is negative then make if positive by multiplying it with -1. Then send the width and the length to AREA function that will <u>return</u> the area of the rectangle.

--------Sample Run1 :	--------Sample Run2 :
Please insert the width and the length: 5 -2	Please insert the width and the length: -4.2 3
The width and the length are: 5 2	The width and the length are: 4.2 3
The area is 10	The area is 12.6

3) Write a program that prompts the user to insert a number then according to this number

--------Sample Run1 :	--------Sample Run2 :
Please insert a number: 5	Please insert a number: 3
*****	***
****	**
***	*
**	
*	

4) Write a program that declares an array of 10 elements and name it grades. Then prompt the user to insert grades out of 100 to fill the array. After that show the following menu and ask the user to insert his choice.

1- Compute the average
2- Find the minimum grade
3- Compute how many passed the course

You need to compute how many passed the course

```cpp
#include<iostream>
using namespace std;

void Read (double A[]) {}
void ShowMenu () {}
double Avg(double A[]) {}
int CountPass (double A[]) {}
double FindMin (double A[]) {}

void main()
{
double grades [10];
cout<<"Please insert 10 grades :";
Read(grades);
ShowMenu();
int choice;
cout<<"Please insert your choice :";
cin>>choice;

switch(choice)
{
case 1:
    cout<<"The average is "<<Avg(grades)<<endl;
    break;
case 2:
    cout<<"The minimum grade is "<<FindMin(grades)<<endl;
    break;
case 3:
    cout<<"The number of who passed is "<<CountPass(grades)<<endl;
    break;
default:
    cout<<"Wrong choice";
}
}
```

--------Sample Run1 : Please insert 10 grades: 99 83 97 95 45 67 85 44 35 78 1- Compute the average 2- Find the minimum grade 3- Compute how many passed the course Please insert your choice: 1 The average is 72.8	--------Sample Run2 : Please insert your choice: 2 The average is 35 --------Sample Run3 : Please insert your choice: 3 The number of who passed is 7