Dear Parents / Students

Due to the unprecedented situation, Knowledgeplus Training center is mobilized and will keep accompanying and supporting our students through this difficult time.

Our Staff will be continuously, **sending notes and exercises on a weekly basis** through **what's app and emails**. Students are requested to **copy the notes and do the exercises** on their copybooks.

The answers to the questions below will be made available on our website on **knowledgeplus.mu/support/is/week1.php** by 27th March 2020.

Please note that these are extra work and notes that we are providing our students and **all classes will be replaced during the winter vacation.**

We thank you for your trust and are convinced that, together, we will overcome these troubled times

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Information System – Week 1

Programming

Instruction: Students should copy the questions and answers on their copybook and try the code on their computer or laptop if possible using Dev C++.

Example 1

Write a program that accepts the values of x and y and output the result for 5x + 4y

Answer:

```
#include <iostream>
using namespace std;
int main()
{
    int x;
    int y;
    int result;

    cout<<"Enter the value for x: " ;
    cin >> x;

    cout << "Enter the value for y: ";
    cin>> y ;

    result = (5*x)+(4*y);

    cout<<"Result is : " << result ;

    return 0;
}
```

Example 2:

a. Write a program that accepts the mark of a students and state if he of she has passed or failed.

Note: 0 – 49 fail / 50 to 100 pass

Answer:

```
#include <iostream>
using namespace std;
int main()
{
    int mark;

    cout<<"Enter mark : " ;
    cin >> mark;

    if ((mark >=0) && (mark <=49))
    {
        cout << "Student fail ";
    }
    else if ((mark>=50)&&(mark<=100))
    {
        cout<<"Student Pass ";
    }
    else
    {
        cout<<"Wrong Mark! ";
    }
    return 0;
}
```

b. Modify the above program for it to accepts the mark of 10 students and output how many of them passed.

```
#include <iostream>
using namespace std;
int main()
{
    int mark;
    int num_pass =0;

    for (int count=0; count<10; count++)
    {

        cout<<"Enter mark : " ;
        cin >> mark;

        if ((mark >=0) && (mark <=49))
        {
            cout << "Student fail \n";
        }
        else if ((mark>=50)&&(mark<=100))
        {
            cout<<"Student Pass \n";
            num_pass++ ;
        }
        else
        {
            cout<<"Wrong Mark! \n";
        }
    }
    cout << "Total pass is : " << num_pass;
    return 0;
}
```

variable counting number of pass

variable increment when student pass

output total number of students who passes

Example 3:

Write a program that accepts the mark of a set of students until -1 is entered. It should them out the total number of students, the average mark and the highest mark obtained by the students.

Answer:

```
#include <iostream>
using namespace std;
int main()
{
    int mark;
    int count_stud = 0;
    int highest = 0;
    int total = 0;
    int avg;

    cout<<" Enter mark : ";
    cin >> mark;

    while(mark != -1 )
    {
        count_stud++;
        total = total + mark;
        if (mark > highest)
        {
            highest=mark;
        }
        cout<<"\n Enter mark : ";
        cin >> mark;
    }
    avg = total /count_stud;
    cout<< " \n Total number of student is : "<< count_stud;
    cout<< " \n Heighest mark is : " << highest;
    cout<< " \n Average amrk is : " << avg ;
    return 0;
}
```

Result

```
Enter mark : 20

Enter mark : 25

Enter mark : 36

Enter mark : 45

Enter mark : 85

Enter mark : 12

Enter mark : 65

Enter mark : 32

Enter mark : 45

Enter mark : 72

Enter mark : -1

Total number of student is : 10
Heighest mark is : 85
Average amrk is : 43
```

Questions:

1. Write a program that accepts three variable; a, b and c. It should be output the result of 2a+3b-c

2. Write a program that accepts the mark of a students and out its grade

   Note: 0 – 30 : U
   31 – 40 : D
   41- 60 : C
   61 – 80 : B
   81 – 100 : A

3. Using While loop, write a program that accepts a set of numbers and output the the average and total until -1 is input.

4. Explain the following programming terms

   a. Variable
   b. Conditional Statements
   c. Loop
   d. Comments
   e. Indentation