**QUIZ 2**

**1.Get three values x, y, z** and write a program to print 1 if x is the middle value, 2 if y is the middle value and 3 if z is the **middle value**. Assume that all three variables (x, y, z) are distinct and have different values.

#include <stdio.h>  
  
int main() {  
    float x, y, z;  
  
    printf("Enter the value for x: ");  
    scanf("%f", &x);  
  
    printf("Enter the value for y: ");  
    scanf("%f", &y);  
  
    printf("Enter the value for z: ");  
    scanf("%f", &z);  
  
      
    int middleValue = (x < y && y < z) || (z < y && y < x) ? 2  
                     : (x < z && z < y) || (y < z && z < x) ? 3  
                     : 1;  
  
    printf("%d\n", middleValue);  
  
    return 0;  
}

OUTPUT:

Enter the value for x: 1

Enter the value for y: 2

Enter the value for z: 3

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2. A password is said to be strong if it satisfies the following criteria:

It contains at least one lowercase English character.

It contains at least one uppercase English character.

It contains at least one special character.

The special characters are: !@#$%^&\*()-+

Its length is at least 8.

It contains at least one digit. **Given a string, find its strength.**

#include <stdio.h>  
#include <string.h>  
#include <ctype.h>  
  
int is\_strong\_password(const char \*password) {  
    int length = strlen(password);  
  
     
    int has\_lowercase = 0, has\_uppercase = 0, has\_special\_char = 0, has\_digit = 0;  
  
    for (int i = 0; i < length; i++) {  
        if (islower(password[i]))  
            has\_lowercase = 1;  
        else if (isupper(password[i]))  
            has\_uppercase = 1;  
        else if (strchr("!@#$%^&\*()-+", password[i]) != NULL)  
            has\_special\_char = 1;  
        else if (isdigit(password[i]))  
            has\_digit = 1;  
    }  
  
      
    int has\_min\_length = length >= 8;  
  
      
    if (has\_lowercase && has\_uppercase && has\_special\_char && has\_digit && has\_min\_length)  
        return 1; // Strong  
    else  
        return 0; // Weak  
}  
  
int main() {  
    char password[50];  
    printf("Enter your password: ");  
    scanf("%s", password);  
  
    if (is\_strong\_password(password))  
        printf("The password is Strong.\n");  
    else  
        printf("The password is Weak.\n");  
  
    return 0;  
}

OUTPUT:

Enter your password: South Korea2

The password is Weak.

3. A firm creates projects for which a certain number of hours are needed. The firm has a certain number of days. During 10% of the days, the workers are being trained and cannot work on the project. A normal working day is 8 hours long. The project is important for the firm and every worker must work on it with overtime of 2 hours per day. The hours must be rounded down to the nearest integer (for example, 6.98 hours are rounded to 6 hours). Write a program that calculates whether the firm can finish the project on time and how many hours more are needed or left.

**Input:**

Accept three integers as input(total number of hours needed,number of days,number of workers).

**Output**:

If the time is enough,print "Yes!{the hours left} hours left.".  
If the time is NOT enough, print "Not enough time!{additional hours} hours needed.

#include <stdio.h>

int main() {

int totalHoursNeeded, numberOfDays, numberOfWorkers;

printf("Enter total number of hours needed: ");

scanf("%d", &totalHoursNeeded);

printf("Enter number of days: ");

scanf("%d", &numberOfDays);

printf("Enter number of workers: ");

scanf("%d", &numberOfWorkers);

int totalWorkingHours = numberOfDays \* (8 + 2) \* numberOfWorkers;

int trainingDays = numberOfDays / 10;

totalWorkingHours -= trainingDays \* numberOfWorkers \* 8;

if (totalWorkingHours >= totalHoursNeeded) {

int hoursLeft = totalWorkingHours - totalHoursNeeded;

printf("Yes! %d hours left.\n", hoursLeft);

} else {

int additionalHours = totalHoursNeeded - totalWorkingHours;

printf("Not enough time! %d hours needed.\n", additionalHours);

}

return 0;

}

OUTPUT:

Enter total number of hours needed: 100

Enter number of days: 10

Enter number of workers: 5

Yes! 360 hours left.