

2022

# ASSIGNMENT NO. 2

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## ***TASK 1:***

```
#include <stdio.h>

#include <math.h>

int main (){

    int Rx1=1, Ry1=3, x2, y2,i,LSD,Location,N;

    printf("Enter least significant digit of your phone number: \n");
    scanf("%d",&LSD);
    if(LSD > 0 && LSD < 4){
        i=1;
        N = pow(2,LSD) * 2;
        while (i<=N){
            int distance;
            printf("\nEnter value of x2 and y2: \n");
            scanf("%d %d",&x2,&y2);
            distance = sqrt( ( (x2-Rx1)*(x2-Rx1) ) + ( (y2-Ry1)*(y2-Ry1) ) );
            printf("distance = %d of point %d\n",distance,i);
            i++;
        }
    }
    else if (LSD = 0){
        N = pow(2,LSD)*(4+3);
        for(i=1;i<=N;i++){
            int distance;
            printf("\nEnter value of x2 and y2: \n");
            scanf("%d %d",&x2,&y2);
            distance = sqrt( ( (x2-Rx1)*(x2-Rx1) ) + ( (y2-Ry1)*(y2-Ry1) ) );
            printf("distance = %d of point %d\n",distance,i);
        }
    }
    else{
        printf("LSD should be 0 or between 0 and 4.");
    }
}
```

```
        return 0;
    }
```

## **TASK 2:**

```
#include <stdio.h>

#include <math.h>

int main (){
    int age,n,i;
    char areatype;
    printf("Enter Number of users data you have ? \n");
    scanf("%d",&n);
    for(i=1; i<=n;i++){
        printf("\nwhats your age ? \n");
        scanf("%d",&age);
        printf("press U for urban and R for rural\n");
        scanf(" %c",&areatype);
        if (areatype == 'U' || areatype == 'u' && age >= 18){
            printf("Eligible for the vaccine. Kindly proceed for the vaccination\n");
        }
        else if (areatype == 'R' || areatype == 'r' && age < 18){
            printf("Not Eligible for the vaccine. Kindly wait for the vaccination\n");
        }
        else {
            printf("Sorry there is no classification for this type.");
        }
    }
    return 0;

    // This question can also be solved with switch case statements and While loops.

}
```

## ***TASK 2 Possibility:***

```
#include <stdio.h>
#include <math.h>
int main (){
    int age,n,i=1;
    char areatype;
    printf("Enter Number of users data you have ? \n");
    scanf("%d",&n);
    while(i<=n){
        printf("\nwhats your age ? \n");
        scanf("%d",&age);
        printf("press U for urban and R for rural\n");
        scanf(" %c",&areatype);
        if (areatype == 'U' || areatype == 'u' && age >= 18){
            printf("Eligible for the vaccine. Kindly proceed for the vaccination\n");
        }
        else if (areatype == 'R' || areatype == 'r' && age < 18){
            printf("Not Eligible for the vaccine. Kindly wait for the vaccination\n");
        }
        else {
            printf("Sorry there is no classification for this type.");
        }
        i++;
    }
    return 0;
    // This question can also be solved with switch case statements and for loops.
}
```

### ***TASK 3:***

```
#include<stdio.h>
#include<string.h>
main(){
int choice,num,digit,length,decryptednum=0,k;
char letter,j;
int i;
printf("what do you want to perform?\n1.encryption\n2.decryption: ");
scanf("%d",&choice);
switch (choice){
    case 1:
        printf("\nenter the number you want to encrypt: ");
        scanf("%d",&num);
        printf("\ncypher text: ");
        if(num<=25){
            j='A';
            for(i=0;i<=25;i++){
                if(num==i){
                    printf("%c",j);
                }
                else j++;
            }
        }
        else {
            while(num>0){
                digit=num%10;
                num=num/10;
                j='A';
                for(i=0;i<=9;i++){
                    if(digit==i){
                        printf("%c",j);
                    }
                }
            }
        }
    }
}
```

```

    }
    else j++;
    }
    }
    }
    break;

```

case 2:

```

printf("enter the length of string you wish to decrypt: ");
scanf("%d",&length);
for(i=1;i<=length;i++){
printf("\nenter the #%d letter of your string: ",i);
scanf(" %c",&letter);
for(k=0,j='A';j<='Z' && k<=25 ;j++,k++){
if(letter==j){
decryptednum = decryptednum*10 + k;
}
}
}
printf("decrypted text: ");
if(decryptednum>25){
while(decryptednum>0){
digit=decryptednum%10;
decryptednum/=10;
printf("%d",digit);
} }
else printf("%d",decryptednum);
break;

```

```

}}

```

#### ***TASK 4:***

```

#include <stdio.h>

```

```

int main () {

    int input,output,age,gender,sum;

    printf("Input a 4 Number :- ");
    scanf("%d",&input);

    printf("Input your Age :- ");
    scanf("%d",&age);

    printf("Input your Gender \n 0.) Female \n 1.) Male :- \n");
    scanf("%d",&gender);
    if(gender == 0 || gender == 1){
        sum = input + age + gender;
    } else {
        printf("Sorry You Entered Wrong Gender");
        return 0;
    }

    while(sum > 0){ // for adding the individual digits of the string
        output = output + (sum % 10);
        sum = sum /10;
    }

    int calOpt;
    printf("What is Your Calculated Output \n");
    scanf("%d",&calOpt);

    if(calOpt == (output % 5)) {
        printf("You can Enter The Room");
    } else {

```

```

        printf("You can not Enter The Room");
    }

    return 0;
}

```

### ***TASK 5:***

```

#include <stdio.h>

int main () {
    int oprTime,cost,numberRequired;
    float days;
    printf("How Much Ice Creams You want to Purchase :- ");
    scanf("%d",&numberRequired);

    printf("How Much Time you want Plant to Operate :- ");
    scanf("%d",&oprTime);

    if(oprTime == 8){
        cost = numberRequired * 60;
        days = numberRequired / 50;
    } else if (oprTime == 16) {
        cost = numberRequired * 60;
        cost = (cost/2) + (cost);
        days = numberRequired / 100;
    } else {
        printf("Plant can not operate for your time");
        return 0;
    }

    printf("Your Total is :- %d \n",cost);
    printf("Your Days Required is :- %f hours:- %d \n",days,days*24);
}

```



```
        return 0;
    }
}
```

### ***TASK 6:***

```
#include <stdio.h>

int main()
{
    int x,n;

    char comDevice;

    printf("Enter no. of iterations: \n");

    scanf("%d",&n);

    printf("Enter the device you want to communicate with: (S for S-D car or M for Mobile Device)\n");

    scanf(" %c",&comDevice);

    if (comDevice == 'S' || comDevice == 's'){
        for(x=0;x<n;x++){
            printf("Move Straight\n");
        }

        for(x=0;x<n;x++){
            printf("***\n");
            printf("***Move Straight\nMove Straight\nMove Straight\nMove Straight\nMove Straight\nMove Straight\n");
        }
        printf("***");
    }

    else if (comDevice == 'M' || comDevice == 'm'){
        for (x=0;x<n;x++){
            printf("Mobile is in city zone\n");
        }
    }
}
```

```
        for(x=0;x<n;x++){  
            printf("***\n");  
            printf("***Mobile is in city zone\nMobile is in city  
zone\nMobile is in city zone\nMobile is in city zone\nMobile is in city  
zone\n");  
        }  
        printf("***");  
    }  
    return 0;  
}
```