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Labsheet-3

1.

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    float unit ,total,sc,dc,extra,y;
    sc=20; //Service Charge = sc
    dc=30; //Demand charge= dc
    extra = sc+dc; // extra means without unit charge

    printf("Please enter how much unit did you use: ");
    scanf("%f",&unit);

    printf("\nYour service charge per month: %.2f taka", sc);
    printf("\nYour demand charge per month: %.2f taka", dc);
    printf("\n");

    //taka per unit is counted according to Palli bidyut

    if ((0<=unit) && (50>=unit))
    {
        if (0==unit)
        {
            printf("\nYou have to pay just %.2f taka",extra);
        }
        else
        {
            total = (3.75*unit)+extra;
            printf("\nYou have to pay total %.2f taka for this month",total);
        }
    }

    else if ((50<unit)&& (75>=unit))
    {
        unit-=50;
        y = (4.19*unit)+extra;
        total = y+(50*3.75);
        printf("\nYou have to pay total %.2f taka for this month",total);
    }
}
```

```

    }

else if ((75<unit)&&(200>= unit))
{
    unit-=75;
    y = (5.72*unit)+extra;
    total = y+(50*3.75)+(25*4.19);
    printf("\nYou have to pay total %.2f taka for this month",total);

}

else if ((200<unit) && (300>=unit))
{
    unit-=200;
    y = (6.00*unit)+extra;
    total = y+(50*3.75)+(25*4.19)+(125*5.72);
    printf("\nYou have to pay total %.2f taka for this month",total);

}

else if ((300<unit)&&(400>= unit))
{
    unit-=300;
    y = (6.34*unit)+extra;
    total = y+(50*3.75)+(25*4.19)+(125*5.72)+(100*6.00);
    printf("\nYou have to pay total %.2f taka for this month",total);
}

else if ((400<unit)&& (600>= unit))
{
    unit-=400;
    y = (9.94*unit)+extra;
    total = y+(50*3.75)+(25*4.19)+(125*5.72)+(100*6.00)+(100*6.34);
    printf("\nYou have to pay total %.2f taka for this month",total);
}

else if (600<unit)
{
    unit-=600;
    y = (11.46*unit)+extra;
    total = y+(50*3.75)+(25*4.19)+(125*5.72)+(100*6.00)+(100*6.34)+(200*9.94);
    printf("\nYou have to pay total %.2f taka for this month",total);
}

printf("\n");

```

```
    return 0;
}
```

2.

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <math.h>
```

```
int main()
```

```
{
```

```
    float a, b,c,in_root,x1,x2,real,imaginary;
```

```
    printf("Please enter the coefficients of a , b and c: ");
```

```
    scanf ("%f %f %f", &a,&b,&c);
```

```
    in_root = ((b*b)- (4*a*c));
```

```
    if (a==0)
```

```
    {
```

```
        printf ("Invalid! This is not a quadratic equation.");
```

```
    }
```

```
    else if (in_root > 0)
```

```
    {
```

```
        x1 = (-b + sqrt(in_root))/(2*a);
```

```
        x2 = (-b - sqrt(in_root))/(2*a);
```

```
        printf ("The solution of a quadratic equation are X= %f and X' = %f ",x1,x2);
```

```
    }
```

```
    else if (in_root < 0)
```

```
    {
```

```
        real = -b/(2*a);
```

```
        imaginary = sqrt(-in_root)/(2*a);
```

```
        printf ("The solution of a quadratic equation are X = %f+%fi and X'= %f-%fi",
real,imaginary,real,imaginary );
```

```
    }
```

```
    return 0;
```

```
}
```

3.

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int main()
```

```
{
```

```
    int a,b;
```

```
    printf("Please enter two digit number: ");
```

```
    scanf ("%1d%1d",&a,&b);
```

```
    if(a==1)
```

```
    {
```

```
        switch (b%10)
```

```
        {
```

```
            case 0:
```

```
                printf("Ten");
```

```
                break;
```

```
            case 1:
```

```
                printf("Eleven");
```

```
                break;
```

```
            case 2:
```

```
                printf("Twelve");
```

```
                break;
```

```
            case 3:
```

```
                printf("Thirteen");
```

```
                break;
```

```
            case 4:
```

```
                printf("Fourteen");
```

```
                break;
```

```
            case 5:
```

```
                printf("Fifteen");
```

```
                break;
```

```
            case 6:
```

```
                printf("Sixteen");
```

```
                break;
```

```
            case 7:
```

```
                printf("Seventeen");
```

```
                break;
```

```
            case 8:
```

```
                printf("Eighteen");
```

```
                break;
```

```
            case 9:
```

```
                printf("Nineteen");
```

```
                break;
```

```
        }
```

```
    return 0;
```

```
}
switch(a%10)
{
    case 1:
        printf("Ten");
        break;
    case 2:
        printf("Twenty");
        break;
    case 3:
        printf("Thirty");
        break;
    case 4:
        printf("Forty");
        break;
    case 5:
        printf("Fifty");
        break;
    case 6:
        printf("Sixty");
        break;
    case 7:
        printf("Seventy");
        break;
    case 8:
        printf("Eighty");
        break;
    case 9:
        printf("Ninety");
        break;
}
switch(b%10)
{
    case 0:
        break;
    case 1:
        printf(" One");
        break;
    case 2:
        printf(" Two");
        break;
    case 3:
        printf(" Three");
        break;
    case 4:
        printf(" Four");
```

```
        break;
    case 5:
        printf(" Five");
        break;
    case 6:
        printf(" Six");
        break;
    case 7:
        printf(" Seven");
        break;
    case 8:
        printf(" Eight");
        break;
    case 9:
        printf(" Nine");
        break;
    }
    return 0;
}
```