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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: %6.2f 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("Fourtheen");
            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;
}
```