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5. #include<stdio.h>
#include<math.h>
int main()
{
    float a, b, c;
    float d, root1, root2;
    printf("Enter coefficient A, B and C of quadratic equation:\n");
    scanf("%f%f%f",&a,&b,&c);
    d = (b * b) - (4 * a * c);
    if (a==0)
    {
        if (b==0)
        {
            printf("No solution: a & b both zero\n");
        }
        else
        {
            root1 = -c/b;
            printf("Linear solution: root=%7.3f\n",root1);
        }
    }
    else
    {
        if (d>=0)
        {
            root1 = (-b+sqrt(d))/2*a;
            root2 = (-b-sqrt(d))/2*a;
            printf("The roots are real: %7.3f and %7.3f\n",root1,root2);
        }
        else if (d<0)
        {
            float e;
            root1 = -b/(2*a);
            e = -1*d;
            e = sqrt(e);
            root2 = e /(2*a);
            printf("The root are complex: %7.3f + %7.3fi and %7.3f - %7.3fi\n",root1,root2,root1,root2);
        }
    }
    return 0;
}

```

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6. #include<stdio.h>
int main()
{
    int b, bb;

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char g;
printf("Enter your balance\n");
scanf("%d",&b);
printf("Enter your gender as M for male and F for female\n");
scanf(" %c",&g);
if (g=='M')
{
    bb = (b*0.05)+b;
    printf("Your bonus balance is: %d\n",bb);
}
else if (g=='F')
{
    if (b>10000)
    {
        bb = (b*0.1)+b;
        printf("Your bonus balance is: %d\n",bb);
    }
    else
    {
        bb = (b*0.05)+b;
        printf("Your bonus balance is: %d\n",bb);
    }
}
else
{
    printf("Invalid Input !\n");
}
return 0;
}

```

**7. #include<stdio.h>**

```

int main()
{
    int unit, cn;
    float amt, toamt, surc;
    printf("Enter your consumer number\n");
    scanf("%d",&cn);
    printf("Enter unit consumed\n");
    scanf("%d",&unit);
    if (unit<200)
    {
        amt = unit *1;
        toamt = amt +100;
        printf("%d consumer having %7.2f rupees bill to be paid\n",cn,toamt);
    }
    else if (unit<=300)
    {

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    amt = 200 + (unit-200)*2;
    if (amt>600)
    {
        surc = amt * 0.25;
        toamt = amt + surc + 100;
        printf("%d consumer having %7.2f rupees bill to be paid\n",cn,toamt);
    }
    else
    {
        toamt = amt +100;
        printf("%d consumer having %7.2f rupees bill to be paid\n",cn,toamt);
    }
}
else
{
    amt = 400 + (unit -300)*3;
    if (amt>600)
    {
        surc = amt * 0.25;
        toamt = amt + surc + 100;
        printf("%d consumer having %7.2f rupees bill to be paid\n",cn,toamt);
    }
    else
    {
        toamt = amt +100;
        printf("%d consumer having %7.2f rupees bill to be paid\n",cn,toamt);
    }
}
return 0;
}

```

**8. a) #include<stdio.h>**

```

int main()
{
    int mark;
    printf("Enter your mark\n");
    scanf("%d",&mark);
    if (mark>=90 && mark<100)
    {
        printf("O Grade!");
    }
    else if(mark>=80)
    {
        printf("E Grade!");
    }
    else if(mark>=70)
    {
        printf("A Grade!");
    }
}

```

```

    }
    else if(mark>=60)
    {
        printf("B Grade!");
    }
    else if(mark>=50)
    {
        printf("C Grade!");
    }
    else
    {
        printf("F Grade!");
    }
    return 0;
}

```

**8. b) #include<stdio.h>**  
**int main()**  
**{**  
 int mark;  
 printf("Enter your mark\n");  
 scanf("%d",&mark);  
 switch(mark/10)  
 {  
 case 10:  
 case 9: printf("O Grade!");  
 break;  
 case 8: printf("E Grade!");  
 break;  
 case 7: printf("A Grade!");  
 break;  
 case 6: printf("B Grade!");  
 break;  
 case 5: printf("C Grade!");  
 break;  
 default: printf("F Grade!");  
 }  
 return 0;  
**}**

**9. #include<stdio.h>**  
**int main()**  
**{**  
 int c;  
 printf("Enter any value between 1-4\n");  
 scanf("%d",&c);  
 switch(c)  
 {

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        case 1: printf("Red\n");
                break;
        case 2: printf("Green\n");
                break;
        case 3: printf("Blue\n");
                break;
        case 4: printf("Black\n");
                break;
        default: printf("Invalid !");
    }
}

```

**10. #include<stdio.h>**

```

int main()
{
    int r,c;
    float area, cir;
    printf("Enter the radius of the circle\n");
    scanf("%d",&r);
    printf("Enter 1 for finding area and 2 for finding circumference\n");
    scanf("%d",&c);
    switch(c)
    {
        case 1: area = 3.14 * r * r;
                printf("Area is %7.2f",area);
                break;
        case 2: cir = 2 * 3.14 * r;
                printf("Circumference is %7.2f",cir);
        default: printf("Wrong Input!");
    }
    return 0;
}

```