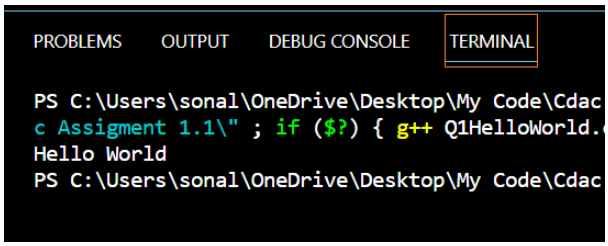
C++ ASSIGNMENT 1.

1.Write a program to print “Hello World” on the screen.

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. cout<<"Hello World";
6. return 0;
7. }
```

Output



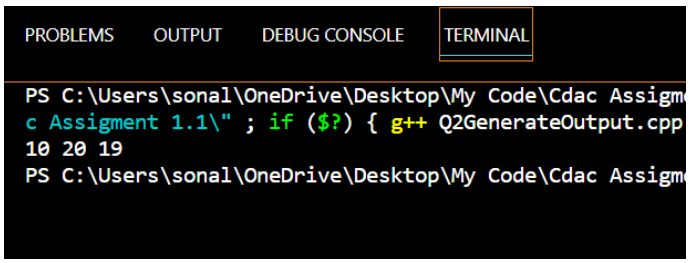
2. Write a program that generate the following output

10, 20, 19

Use an integer constant for 10, an arithmetic C++ ASSIGNMENT operator to generate the 20, and a decrement operator to generate 19.

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int a,b,c;
6. a = 10;
7. b = a*2;
8. c = b--;
9. cout << a<<" "<<c<<" "<<b ;
10. return 0;
11. }
```

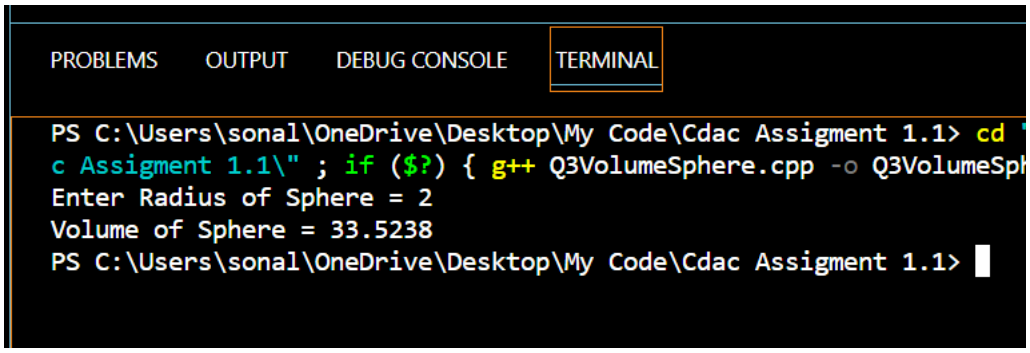


3. Write a program that asks the user to enter a radius value and then compute the volume of a sphere with the input radius.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  double r,v;
6.  cout << "Enter Radius of Sphere = ";
7.  cin >> r;
8.  v = (4.0/3.0) * (22.0/7.0) * (r*r*r);
9.  cout << "Volume of Sphere = " << v;
10. return 0;
11. }
```

Output



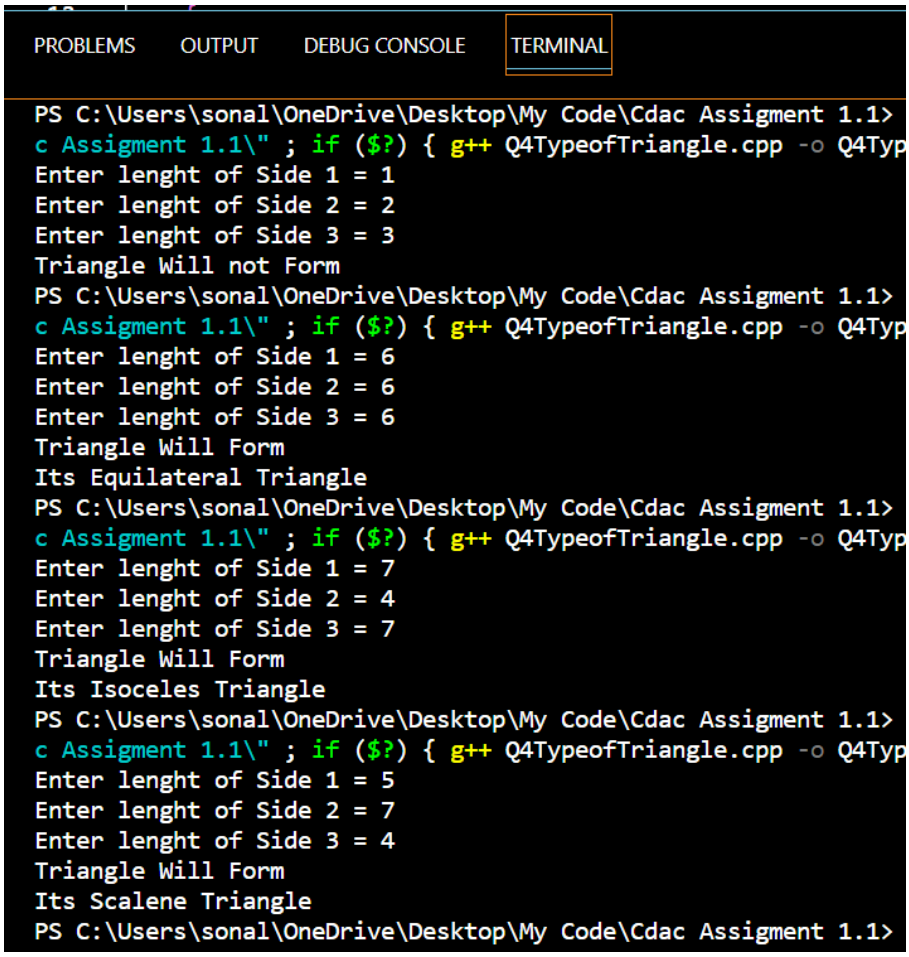
4. Write a program that takes three input of sides of a triangle. The program should indicate whether the triangle would be formed or not. If it can be formed it also indicates the type.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  double s1,s2,s3;
6.  cout << "Enter lenght of Side 1 = ";
7.  cin >> s1;
8.  cout << "Enter lenght of Side 2 = ";
9.  cin >> s2;
10. cout << "Enter lenght of Side 3 = ";
11. cin >> s3;
12. if(((s1+s2)>s3) || ((s2+s3)>s1) || ((s1+s3)>s2))
13. {
14. cout << "Triangle Will Form" << "\n";
15. if(s1==s2==s3)
16. {
17. cout << "Its Equilateral Triangle";
```

```
18. }
19. else
20. if((s1==s2)||(s2==s3)||(s3==s1))
21. {
22. cout << "Its Isoceles Triangle";
23. }
24. else
25. if((s1=!s2)||(s2=!s3)||(s3=!s1))
26. {
27. cout << "Its Scalene Triangle";
28. }
29. }
30. else
31. {
32. cout << "Triangle Will not Form";
33. }
34. return 0;
35. }
```

Output

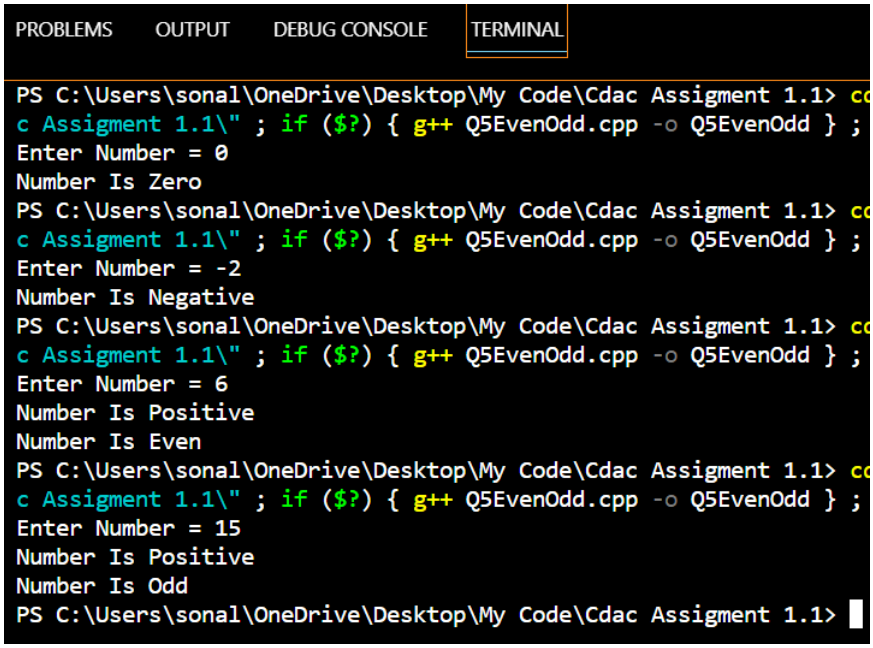


5. Write a program that takes one input as number and it will display whether the number is +ve, -ve or zero. If the number is +ve, then it will display whether the number is odd or even.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  int a;
6.  cout << "Enter Number = ";
7.  cin >> a;
8.  if(a>0)
9.  {
10. cout << "Number Is Positive" << "\n";
11. {
12. if((a%2)==0)
13. cout << "Number Is Even";
14. else
15. cout << "Number Is Odd";
16. }
17. }
18. else
19. if(a<0)
20. {
21. cout << "Number Is Negative";
22. }
23. else
24. if(a==0)
25. {
26. cout << "Number Is Zero";
27. }
28. return 0;
29. }
```

Output

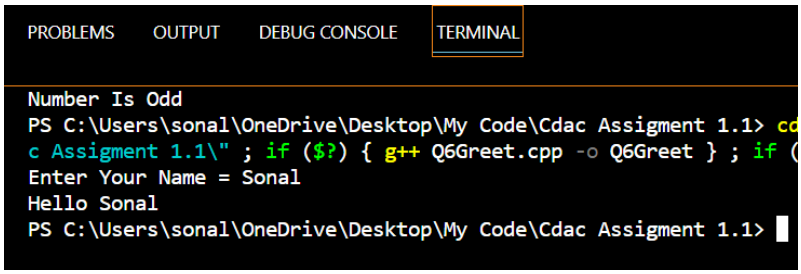


6. Write a program which takes username as input and it greets to user with his name.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  string n ;
6.  cout << "Enter Your Name = ";
7.  cin >> n;
8.  cout<<"Hello "<<n ;
9.  return 0;
10. }
```

Output

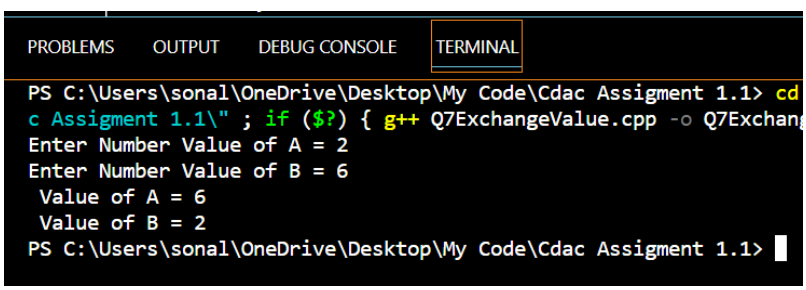


7. Write a program, which takes two integer numbers as input and it shows their exchanged value. (Don't use third variable)

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  int a,b;
6.  cout << "Enter Number Value of A = ";
7.  cin >> a;
8.  cout << "Enter Number Value of B = ";
9.  cin >> b;
10. cout << " Value of A = "<< b <<"\n";
11. cout << " Value of B = "<< a <<"\n";
12. return 0;
13. }
```

Output

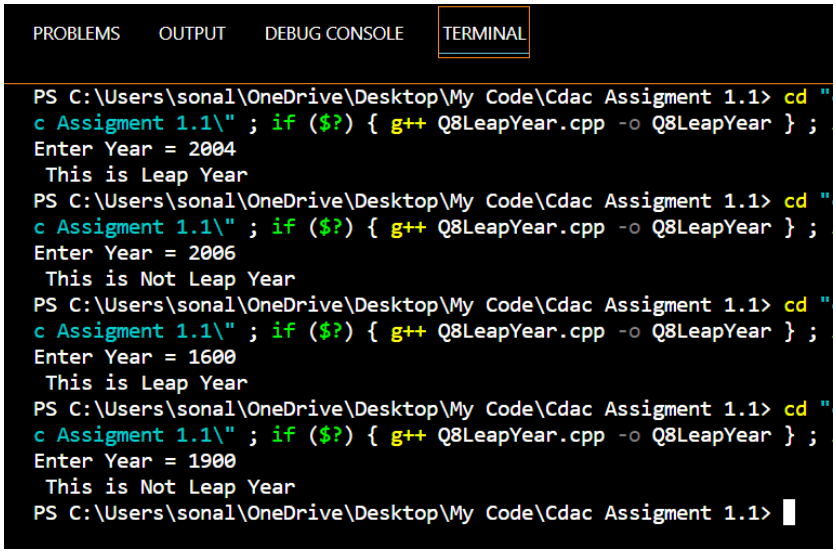


8. WAP to check Leap Year.

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int a,b;
6. cout << "Enter Year = ";
7. cin >> a;
8. if((a%4)==00)
9. {
10. if((a%100)==00)
11. {
12. if((a%400)==00)
13. {
14. cout << " This is Leap Year";
15. }
16. else
17. {
18. cout << " This is Not Leap Year";
19. }
20. }
21. else
22. {
23. cout << " This is Leap Year";
24. }
25. }
26. else
27. {
28. cout << " This is Not Leap Year";
29. }
30. return 0;
31. }
```

Output

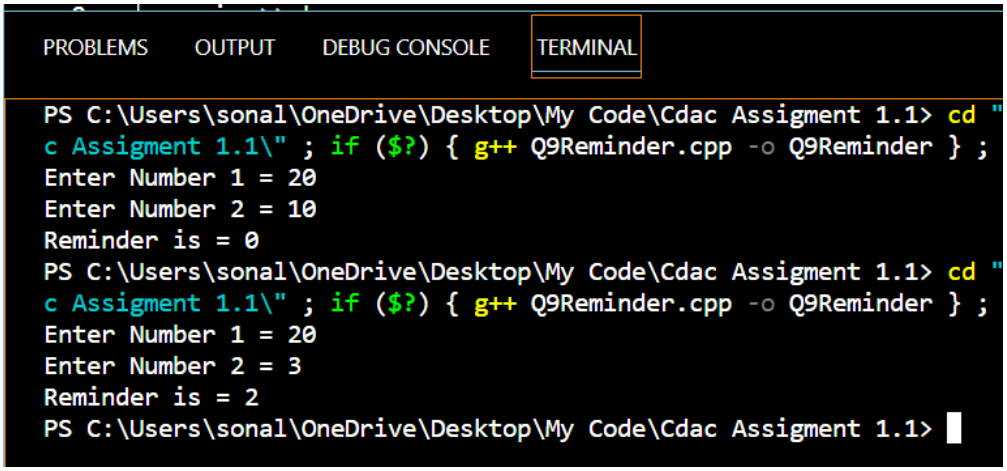


9. WAP for finding remainder of division of 2 numbers.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  int a,b,c;
6.  cout << "Enter Number 1 = ";
7.  cin >> a;
8.  cout << "Enter Number 2 = ";
9.  cin >> b;
10. c = a%b;
11. cout<< "Reminder is = " << c;
12. return 0;
13. }
```

Output



10. WAP to calculate Area of Rectangle.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  int l,w,a;
6.  cout << "Enter Length = ";
7.  cin >> l;
8.  cout << "Enter Width = ";
9.  cin >> w;
10. a = l*w;
11. cout << "Area of Rectangle = " << a;
12. return 0;
13. }
```

Output

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
PS C:\Users\sonal\OneDrive\Desktop\My Code\Cdac Assigment 1.1> c
c Assigment 1.1\" ; if ($?) { g++ Q10AreaRectangle.cpp -o Q10Ar
Enter Length = 12
Enter Width = 8
Area of Rectangle = 96
PS C:\Users\sonal\OneDrive\Desktop\My Code\Cdac Assigment 1.1>
```

11 .WAP to calculate Area of Square.

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int l,a;
6. cout << "Enter Length of Side = ";
7. cin >> l;
8. a = (l*l);
9. cout << "Area of Square = " << a;
10. return 0;
11. }
```

Output

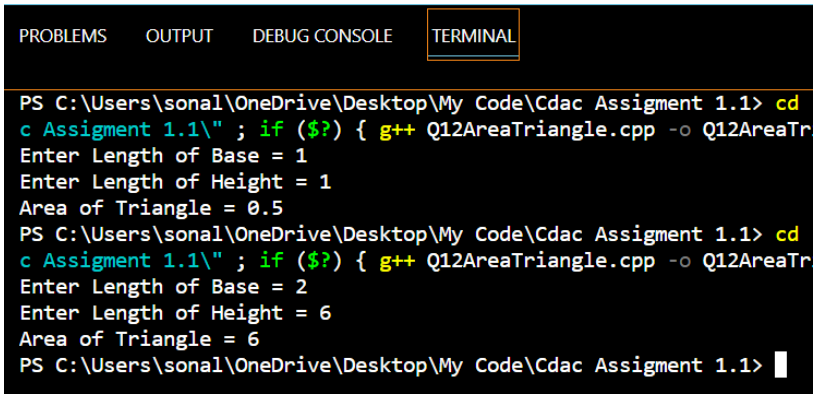
```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\sonal\OneDrive\Desktop\My Code\Cdac Assigment 1.1>
c Assigment 1.1\" ; if ($?) { g++ Q11AreaSquare.cpp -o Q11Area
Enter Length of Side = 12
Area of Square = 144
PS C:\Users\sonal\OneDrive\Desktop\My Code\Cdac Assigment 1.1>
```

12. WAP to calculate the area of Triangle.

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. double b,h,a;
6. cout << "Enter Length of Base = ";
7. cin >> b;
8. cout << "Enter Length of Height = ";
9. cin >> h;
10. a = (1.0/2.0)*b*h;
11. cout << "Area of Triangle = " << a;
12. return 0;
13. }
```

Output

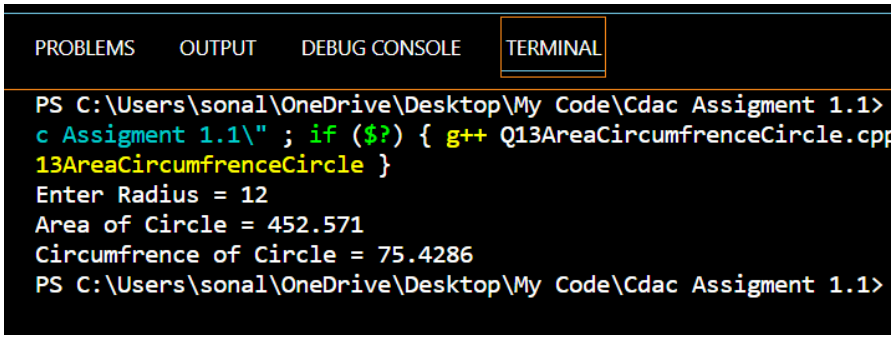


13. WAP to calculate Area and Circumference of Circle.

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  double r,a,c;
6.  cout << "Enter Radius = ";
7.  cin >> r;
8.  a = (22.0/7.0)*(r*r);
9.  c = (2.0)*(22.0/7.0)*r;
10. cout << "Area of Circle = " << a <<"\n";
11. cout << "Circumfrence of Circle = " << c ;
12. return 0;
13. }
```

Output



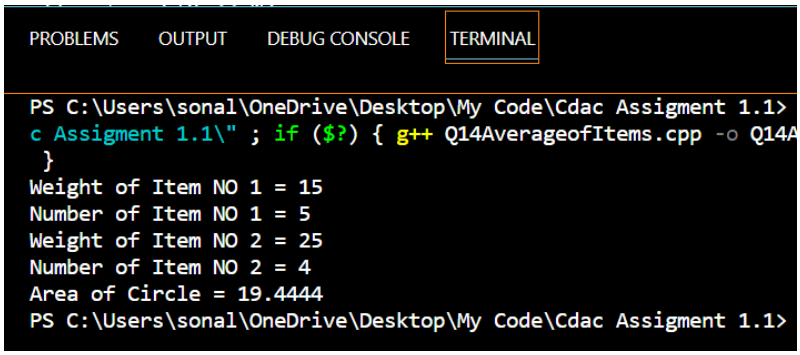
14. WAP for two item’s weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items.

Test Data: Weight - Item1: 15 No. of item1: 5 Weight - Item2: 25 No. of item2: 4 Expected Output: Average Value = 19.444444

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  float w1,w2,n1,n2,avg;
6.  cout << "Weight of Item NO 1 = ";
7.  cin >> w1;
8.  cout << "Number of Item NO 1 = ";
9.  cin >> n1;
10. cout << "Weight of Item NO 2 = ";
11. cin >> w2;
12. cout << "Number of Item NO 2 = ";
13. cin >> n2;
14. avg = (((w1*n1)+(w2*n2))/(n1+n2));
15. cout << "Area of Circle = " << avg ;
16. return 0;
17. }
```

Output



15. WAP to calculate a bike's average consumption from the given total distance (integer value) travelled (in km) and spent fuel.

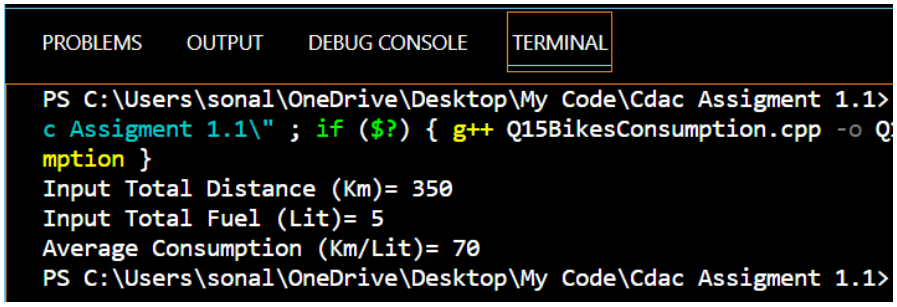
Test Data: Input total distance in km: 350 Input total fuel spent in litres: 5 Expected Output: Average consumption (km/lt) 70.00

Code

```
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.  float a,b,cons;
6.  cout << "Input Total Distance (Km)= ";
7.  cin >> a;
8.  cout << "Input Total Fuel (Lit)= ";
9.  cin >> b;
10. cons = a/b;
```

```
11. cout << "Average Consumption (Km/Lit)= " << cons;
12. return 0;
13. }
```

Output



16. Write a program that will give the grade of the student based on the percentage he got in the course.

Use the following criteria for assigning grades:

Grade = A (when percentage >= 60)

Grade = B (when percentage >= 50 and percentage < 60)

Grade = C (when percentage >= 40 and percentage < 50)

Grade = D (when percentage >= 30 and percentage < 40)

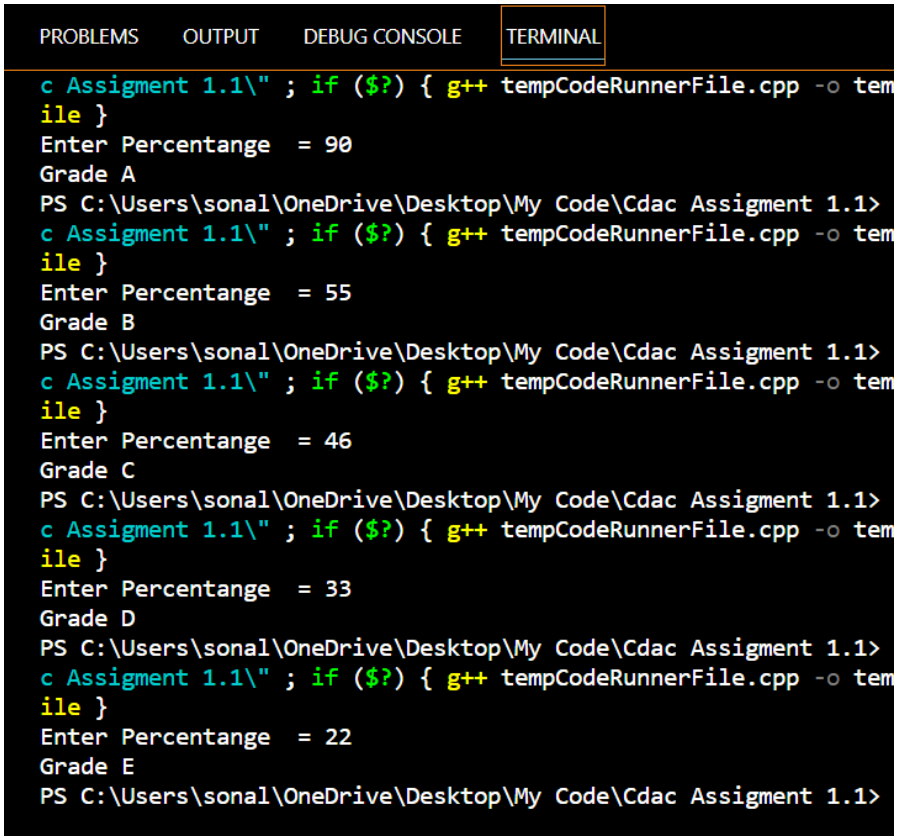
Grade = E (when percentage >= 20 and percentage < 30)

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. double p;
6. char g;
7. cout << "Enter Percentange  = ";
8. cin >> p;
9. if(p>=60)
10. {
11. g = 'A';
12. cout<<"Grade "<< g;
13. }
14. else
15. if((p>=50)&&(p<60))
16. {
17. g = 'B';
18. cout<<"Grade "<< g;
19. }
20. else
21. if((p>=40)&&(p<50))
```

```
{
g = 'C';
cout<<"Grade "<< g;
}
else
if((p>=30)&&(p<40))
{
g = 'D';
cout<<"Grade "<< g;
}
else
if((p>=20)&&(p<30))
{
g = 'E';
cout<<"Grade "<< g;
}
return 0;
}
```

Output



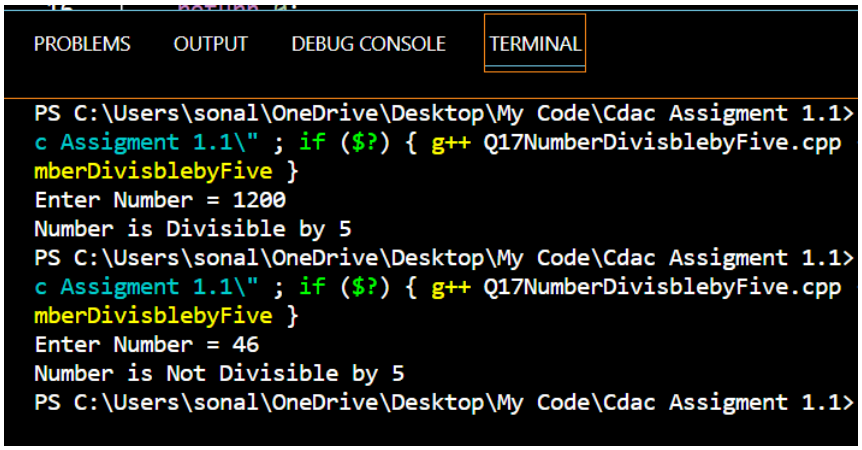
17. WAP to check whether a number is divisible by 5.

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
```

```
{
int a,b;
cout << "Enter Number = ";
cin >> a;
if((a%5)==0)
{
cout<<"Number is Divisible by 5";
}
else
{
cout<<"Number is Not Divisible by 5";
}
return 0;
}
```

Output



18. WAP to input basic salary of an employee and calculate its Gross salary according to following:
Basic Salary <= 10000 : HRA = 20%, DA = 80%

Basic Salary <= 20000 : HRA = 25%, DA = 90%

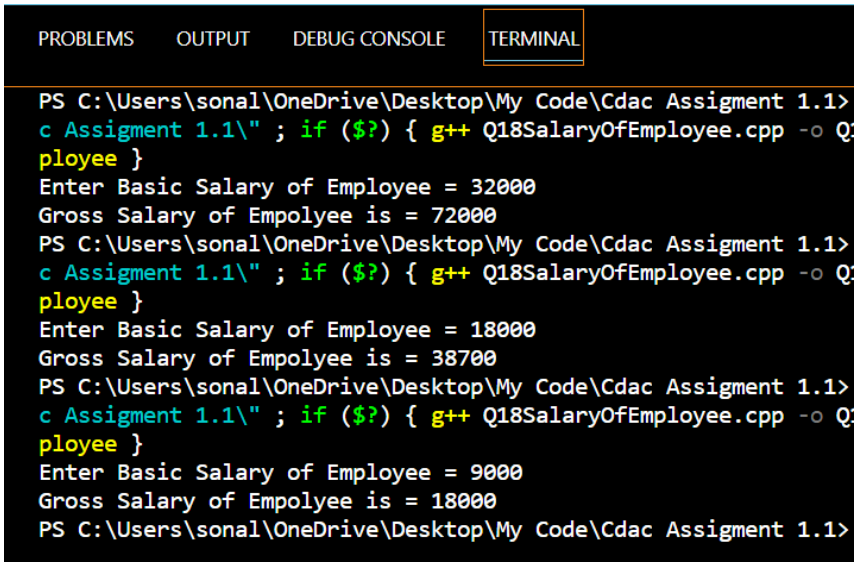
Basic Salary > 20000 : HRA = 30%, DA = 95%

Code

```
#include <iostream>
using namespace std;
int main()
{
float BSal ,HRA ,DA ,GrossSal;
cout << "Enter Basic Salary of Employee = ";
cin >> BSal ;
if(BSal<=10000)
{
HRA = BSal*0.2;
DA = BSal*0.8;
GrossSal = BSal + HRA + DA ;
cout << "Gross Salary of Empolyee is = " << GrossSal ;
}
else
```

```
16. if((BSal<=20000)&&(BSal>10000))
17. {
18. HRA = BSal*0.25;
19. DA = BSal*0.9;
20. GrossSal = BSal + HRA + DA ;
21. cout << "Gross Salary of Empolyee is = " << GrossSal ;
22. }
23. else
24. if(BSal>20000)
25. {
26. HRA = BSal*0.3;
27. DA = BSal*0.95;
28. GrossSal = BSal + HRA + DA ;
29. cout << "Gross Salary of Empolyee is = " << GrossSal ;
30. }
31. return 0;
32. }
```

Output



19. WAP to input electricity unit charges and calculate total electricity bill according to the given condition: For first 50 units Rs. 0.50/unit For next 100 units Rs. 0.75/unit For next 100 units Rs. 1.20/unit For unit above 250 Rs. 1.50/unit An additional surcharge of 20% is added to the bill

Code

```
1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. float a,b;
6. cout << "Enter Number Of Units = ";
7. cin >> a;
8. if (a<=50)
9. {
```

```
    b = (0.50*a);
    cout << "Electricity Bill is = " << b ;
    }
    else
    if ((a>50)&&(a<=150))
    {
    b = (0.75*a);
    cout << "Electricity Bill is = " << b;
    }
    else
    if ((a>150)&&(a<=250))
    {
    b = (1.20*a);
    cout << "Electricity Bill is = " << b;
    }
    else
    if (a>250)
    {
    b = (1.50*a)+ (0.20*a);
    cout << "Electricity Bill is = " << b;
    }
    return 0;
    }
```

Output