Practical No 2

Aim : Implement C programs using constan and variables.

1) Program Using Constants :

• Theory

In C programming constan are used to define value that remain unchanged thought the execute of a program. They can be used to simiplfy code and make it more readble by avoiding the repetion of constant values.

Defined constants :- These constant are defined using # define or const keyword and can be used throughout the program.

define : This preprocesser directive allows you to define a constant without specifying a type It is replaced its value before the grogram is compiled.

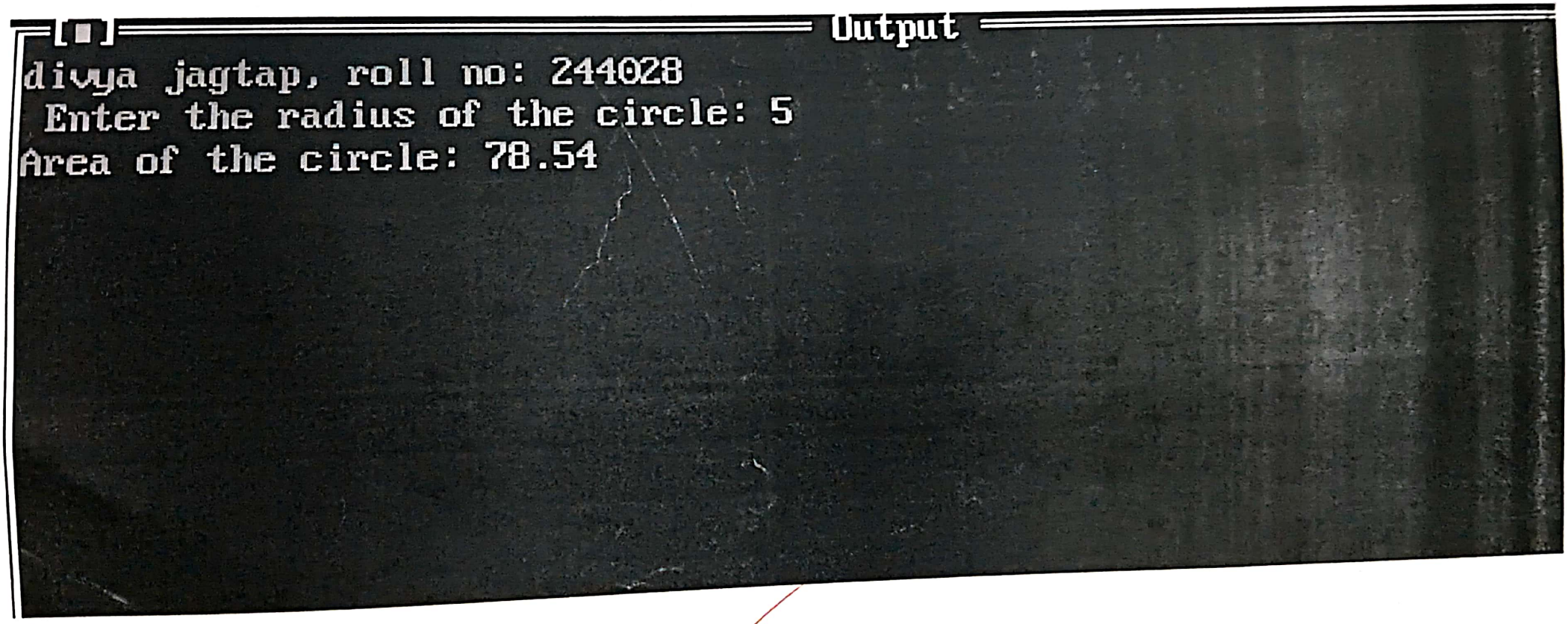
Const keyword : This define a constant with a specific data type . It is typically used for defining constant at a particular scope.

- Write a algorithm to calculate the area of a circle using a constant for Pi (π) and draw a flow chart
- Write a C program to calculate the area of a circle using a constant for Pi (π).
- formula : Area = π x radius 2
- Code :

```
# include <stdio.h>
# define PI 3.14159 // Defining a constant for Pi
 int main ()
   {
 float radius, area;
// Input : Take radius form the user
 printf (" Enter the radius of the circle: ");
  scanf ("%f", &radius);
 printf ("Name: Divya Jagtap Roll No : 244028");
// Calculate the area using the constant PI
   area = PI * radius * radius;
 // Output the result
printf ("Area of the circle: %.2f\n", area);
  return 0;
    }
```

- Conclusion :

Using constant in C programming makes your code clear and helps prvent errors. In this example, we used a constant PI to the value of Pi, which is used in the formula to calculate the area of a circle.



2) Program using variable

- theory

What are variable?

A variable ic C is essentially a container for storing data that can be modify during the program execution, Each variable has:

A name (identifier)

- Write a algorithm to calculate the sum of two number using variable and draw a flow chart.
- Write a program to calculate the sum of two number using variable
- Code:

```
# include <stdio.h>
int main ()
  {
// Declar variable to store user input
    int num1, num2, sum;
// Input : Take two number from the user
  printf ("Name: Divya Jagtap roll no: 244028");
  printf ("Enter two integers:");
  scanf ("%d", &num1, &num2);
// Calculate the sum of the two numbers
  sum = num1 + num2;
// Output the result
```

Output

```
divya jagtap, roll no: 241028
 Enter two integers: 28
36
Sum of 28 and 36 is: 64
```

```
printf ("sum of %d and %d is: %d\n", num
1, num2, sum);
return 0;

}
```

Conclusion:
Variable are fundamental in C programming because they allow us to store and manipulate data By using variable, we ca create programs that can take input, perfo calculation and store results dynamically.