Question 1.

Output :

```
This CODE IS RUN BY  Adhit Upadhyay
 Bisection Method
Enter the error criteria : 0.0003
Enter two initial guesses (x1 and x2): -1 1
S.N        x1      x2      x0      f(x0)
1       -1.000000       1.000000        0.000000        1.000000
2       0.000000        1.000000        0.500000        0.053222
3       0.500000        1.000000        0.750000        -0.856060
4       0.500000        0.750000        0.625000        -0.356690
5       0.500000        0.625000        0.562500        -0.141293
6       0.500000        0.562500        0.531250        -0.041512
7       0.500000        0.531250        0.515625        0.006476
8       0.515625        0.531250        0.523438        -0.017362
9       0.515625        0.523438        0.519531        -0.005404
10      0.515625        0.519531        0.517578        0.000545
11      0.517578        0.519531        0.518555        -0.002427
12      0.517578        0.518555        0.518066        -0.000940
13      0.517578        0.518066        0.517822        -0.000197
Required Root is: 0.517822
```

Question 2.

Output :

```
This code is run by Adhit Upadhyay

Newton-Raphson Method
Enter the initial guess (x0): 1
Iteration 1: x1 = 0.620, f(x1) = 0.046
Iteration 2: x2 = 0.607, f(x2) = 0.000
Iteration 3: x3 = 0.607, f(x3) = 0.000
Root found at x = 0.607
PS E:\Deerwalk\3rd Sem\NM>
```

Question 3.

Output :

```
This code is run by Adhit Upadhyay

Secant Method
Enter the initial guesses (x0 and x1): 1 2
S.N        x0              x1              x2              f(x2)
1       1.000           2.000           2.200           1.248
2       2.000           2.200           2.089           -0.062
3       2.200           2.089           2.094           -0.004
4       2.089           2.094           2.095           0.000
Root found at x = 2.095
PS E:\Deerwalk\3rd Sem\NM>
```

Question 4.

Output :

```
This code is run by Adhit Upadhyay

Fixed-Point Iteration Method
Enter the initial guess (x0): 2
S.N        x0              x1              g(x1)
1       2.000           0.195           0.660
2       0.195           0.660           0.597
3       0.660           0.597           0.609
4       0.597           0.609           0.607
5       0.609           0.607           0.607
6       0.607           0.607           0.607
Root found at x = 0.607
PS E:\Deerwalk\3rd Sem\NM>
```