

Q.4 The population of a town is 100000. The population has increased steadily at the rate of 10% per year for the last 10 years. Write a program to determine the population at the end of each year in the last decade.

#include <stdio.h>

#include <math.h>

int main() {

int year ;

double population = 100000 ;

Printf ("Yearly population growth for 10 years :\n");

for (year = 1 ; year <= 10 ; year++) {

population = population + (0.10 * population) ;

Printf ("Year %d ; %f\n", year, population)

}

return 0 ;

}

A screenshot of a mobile application interface for executing C code. The top bar shows the file name "main.c" and various icons for sharing and running the code. The main area contains the C code for calculating population growth over 10 years. The output window displays the results and a success message.

```
main.c
1 #include <stdio.h>
2 #include <math.h>
3
4 int main() {
5     int year;
6     double population = 100000.0;
7
8     printf("Yearly population growth for 10 years:\n");
9
10    for(year = 1; year <= 10; year++) {
11        // Calculate population for the end of the current year
12        // (10% increase)
13        population = population + (0.10 * population);
14
15        // Print the year number and the calculated population
16        printf("Year %d: %.0f\n", year, population);
17    }
18
19    return 0;
}
```

Output:

```
Yearly population growth for 10 years:
Year 1: 110000
Year 2: 121000
Year 3: 133100
Year 4: 146410
Year 5: 161051
Year 6: 177156
Year 7: 194872
Year 8: 214359
Year 9: 235795
Year 10: 259374

*** Code Execution Successful ***
```