

Assignment-5

Q- Write a program to implement Future/Present Value Analysis

Ans-

```
#include <stdio.h>
```

```
#include <math.h>
```

```
double calculateFutureValue(double presentValue, double interestRate,  
int periods) {
```

```
    return presentValue * pow((1 + interestRate), periods);
```

```
}
```

```
double calculatePresentValue(double futureValue, double interestRate,  
int periods) {
```

```
    return futureValue / pow((1 + interestRate), periods);
```

```
}
```

```
int main() {
```

```
    double presentValue, interestRate, futureValue, presentValueResult;
```

```
    int periods;
```

```
    char choice;
```

```
    printf("Enter present value: ");
```

```
    scanf("%lf", &presentValue);
```

```
    printf("Enter interest rate (in percentage): ");
```

```
    scanf("%lf", &interestRate);
```

```
    interestRate /= 100;
```

```
    printf("Enter number of periods: ");
```

```
    scanf("%d", &periods);
```

```
    printf("Enter 'F' for Future Value or 'P' for Present Value: ");
```

```
    scanf(" %c", &choice);
```

```
if (choice == 'F' || choice == 'f') {
    futureValue = calculateFutureValue(presentValue, interestRate,
periods);
    printf("Future Value: %.2f\n", futureValue);
} else if (choice == 'P' || choice == 'p') {
    presentValueResult = calculatePresentValue(presentValue,
interestRate, periods);
    printf("Present Value: %.2f\n", presentValueResult);
} else {
    printf("Invalid choice. Please enter 'F' or 'P'.\n");
}
return 0;
}
```

Output

Output

```
/tmp/fLQiMOiQYe.o
Enter present value: 9934.74
Enter interest rate (in percentage): 10
Enter number of periods: 5
Enter 'F' for Future Value or 'P' for Present Value: P
Present Value: 6168.69
|
```

Output

```
/tmp/fLQiMOiQYe.o
Enter present value: 9934.74
Enter interest rate (in percentage): 10
Enter number of periods: 5
Enter 'F' for Future Value or 'P' for Present Value: F
Future Value: 16000.00
|
```

