Experiment 4 : Write a program to perform a raise to power b and perform decision table testing

Solution:

```
#include<stdio.h>
int main()
{
int a = 0, b = 0, i, temp;
float temp2;
while(1)x
{
printf("Enter a: ");
scanf("%d", &a);
printf("Enter b: ");
scanf("%d", &b);
if(a == 0 && b == 0)
{
printf("Domain Error\n\n");
}
else if(a == 0 && b != 0)
{
printf("Answer: %d\n\n", 0);
}
else if(a != 0 && b == 0)
{
printf("Answer: %d\n\n", 1);
}
else if(b > 0)
{
temp = a;
for(i = 1; i < b; i++)
{
temp *= a;


}
printf("Answer: %d\n\n", temp);
}
else
{
temp2 = (1.00/a);
b = -1 * b;
for(i = 1; i < b; i++)
{
temp2 *= (1.00/a);
}
printf("Answer: %f\n\n", temp2);
}
}
return 0;
}
```

Conditions are:

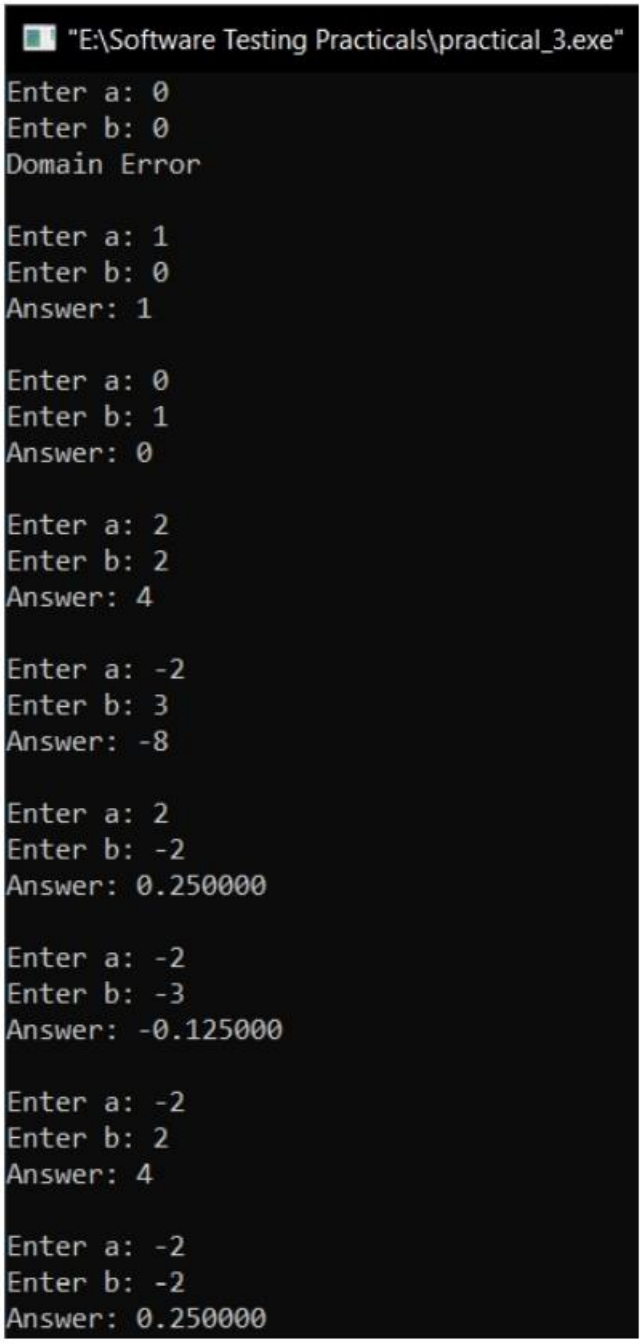
C1: a = 0, b = 0
C2: a = -ve, b = +ve even int
C3: a = +ve, b = -ve
C4: a = -ve, b = -ve even int
C5: a = +ve, b = +ve
C6: a = 0, b = int
C7: b = 0, a = int
C8: a = -ve, b = +ve odd int
C9: a = -ve, b = -ve odd int

Actions:

A1: Domain error
A2: Negative output
A3: Output =1
A4: Positive output
A5: Output = 0

Decision Table:

Conditions	R1	R2	R3	R4	R5	R6	R7	R8	R9
1	T								
2								T	
3						T			
4									T
5				T					
6			T						
7		T							
8					T				
9							T		
Actions									
1	T								
2					T		T		
3		T							
4				T		T		T	T
5			T						


"E:\Software Testing Practicals\practical_3.exe"
Enter a: 0
Enter b: 0
Domain Error
Enter a: 1
Enter b: 0
Answer: 1
Enter a: 0
Enter b: 1
Answer: 0
Enter a: 2
Enter b: 2
Answer: 4
Enter a: -2
Enter b: 3
Answer: -8
Enter a: 2
Enter b: -2
Answer: 0.250000
Enter a: -2
Enter b: -3
Answer: -0.125000
Enter a: -2
Enter b: 2
Answer: 4
Enter a: -2
Enter b: -2
Answer: 0.250000