Program :-

```
import random

def objective_function(solution):
    print(sum(solution))
    return sum(solution)

def generate_neighbor(current_solution):
    neighbor = current_solution[:]
    print(neighbor)
    index = random.randint(0, len(neighbor) - 1)
    neighbor[index] = 1 - neighbor[index]
    return neighbor

def hill_climbing():
    current_solution = [random.randint(0, 10) for _ in range(10)]
    current_fitness = objective_function(current_solution)

    while True:
        neighbor = generate_neighbor(current_solution)
        neighbor_fitness = objective_function(neighbor)

        if neighbor_fitness >= current_fitness:
            current_solution = neighbor
            current_fitness = neighbor_fitness
        else:
            break

    return current_solution, current_fitness

best_solution, best_fitness = hill_climbing()
print("Best Solution:", best_solution)
print("Best Fitness:", best_fitness)
```

Output :-

```
(base) student@cseadmin:~/Desktop/sinan$ python3 hill.py;
69
[5, 8, 6, 3, 8, 10, 9, 10, 0, 10]
54
Best Solution: [5, 8, 6, 3, 8, 10, 9, 10, 0, 10]
Best Fitness: 69
(base) student@cseadmin:~/Desktop/sinan$
```