Quiz on Section 3 Results for SevdanurGenc

Correct answers are hidden.

Score for this attempt: **10.67** out of 12

Submitted Jun 22 at 7:07pm

This attempt took 37 minutes.

Question 1

1 / 1 pts

How do you create a simulated annealing sampler in D-Wave assuming we have the following statement?

```
from neal import SimulatedAnnealingSampler
```

- sampler = SimulatedAnnealler
- sampler = SimulatedAnnealingSampler
- sampler = Simulated
- sampler = SimulatedAnnealingSampler()

Question 2

1 / 1 pts

Which one is not a valid parameter for the `sample` function ?

- ising model
- number of reads
- binary quadratic model
- beta schedule

Question 3

1 / 1 pts

Suppose we created a simulated annealing sampler named `sampler`. By using which function can you sample directly from an Ising model without creating a bqm?

- (●) sample_ising
- ( ) ising_sampler
- ( ) ising_sample
- ( ) sample

Incorrect

Question 4

0 / 1 pts

```
for i in range(N):
        if sum(sample[f"x_{i}_{t}"] for t in range(N))!=1:
            return False
```

Given that `x_i_t=1` if node i is visited at time t and 0 otherwise and a sample obtained as a result of solving a TSP instance with N cities using simulated annealing, what is the above code performing?

- (●) It returns false if no node is visited at a time point.
- ( ) It returns false if more than one node is visited at a time.
- ( ) It returns false if a node is not visited exactly once.
- ( ) It returns false if a node is visited more than once.

Partial

Question 5

0.67 / 1 pts

```
p = []
    for t in range(N):
        for i in range(N):
            if sample[f"x_{i}_{t}"] == 1:
                p.append(i)
```

Given that `x_i_t=1` if node i is visited at time t and 0 otherwise and a sample obtained as a result of solving a TSP instance with N cities using simulated annealing, suppose we execute the above piece of code. Which one of the following(s) is(are) true about `p`?

- [x] p may contain more than N integers
- [ ] p may contain less than N integers
- [ ] p is always a permutation of integers between 0,..N-1
- [x] If the sample is feasible, p contains the list of visited cities.

Question 6

1 / 1 pts

Which one of the following parameters is not optional when you add a linear inequality constraint using the function `add_linear_inequality_constraint` ?

- lagrange_multiplier
- lb
- ub

- (•) label

Question 7

1 / 1 pts

Suppose that we have a binary quadratic model named `bqm`.

Which function do you use to add a linear inequality constraint?

- ( ) bqm.add_linear_inequality
- ( ) bqm.add_inequality_constraint
- (•) bqm.add_linear_inequality_constraint
- ( ) bqm.add_constraint

Question 8

1 / 1 pts

Consider the following time-dependent Hamiltonian $H\left(t\right)$

$H(t) = (1 - \frac{t}{\tau})H_0 + \frac{t}{\tau}H_p$

Which one of the following(s) is(are) true?

- [ ] If the system is initialized with the ground state of H_p, it always remains in the ground state throughout the evolution
- [x] The goal is to find the ground state of H_p
- [x] At t=0, only H_0 acts on the system
- [ ] The goal is to find thr ground state of H_0

Question 9

1 / 1 pts

In D-Wave, interactions of the form $J_{ijk}s_is_js_k$can be implemented.

- True
- False

Question 10

1 / 1 pts

How do you create a sampler to sample from D-Wave default QPU?

- sampler = DWave()
- sampler = DWaveSampler()
- sampler = DWaveQPU()
- sampler = DWaveSampler("default"))

Question 11

1 / 1 pts

How do you create a sampler to sample from D-Wave QPU with built-in minor embedding?

- sampler = MinorEmbedding()
- sampler = EmbeddingComposite(DWaveSampler())
- sampler = MinorEmbedding(DWaveSampler())

- sampler = EmbeddingComposite()

Question 12

1 / 1 pts

Select the true statement(s).

- Chain break fraction is same for all samples in a sampleset
- chain_strength paraemeter determines the coupling coefficient between qubits in a chain.
- Chains are needed because not all qubits are connected in D-Wave QPUs.
- One should set the chain_strength as high as possible to obtain good results.

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