

Lab 5  
Character Level Language Model

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(57)

## Clipping Result:

```
gradients["dWaa"][1][2] = 10.0
gradients["dWax"][3][1] = -10.0
gradients["dWya"][1][2] = 0.2971381536101662
gradients["db"][4] = [10.]
gradients["dby"][1] = [8.45833407]
```

## Sampling Result:

Sampling:

List of sampled indices: [12, 17, 24, 14, 13, 9, 10, 22, 24, 6, 13, 11, 12, 6, 21, 15, 21, 14, 3, 2, 1, 21, 18, 24, 7, 25, 6, 25, 18, 10, 16, 2, 3, 8, 15, 12, 11, 7, 1, 12, 10, 2, 7, 7, 11, 17, 24, 12, 13, 24, 0].

List of sampled characters: ['l', 'q', 'x', 'n', 'm', 'i', 'j', 'v', 'x', 'f', 'm', 'k', 'l', 'f', 'u', 'o', 'u', 'n', 'c', 'b', 'a', 'u', 'r', 'x', 'g', 'y', 'f', 'y', 'r', 'j', 'p', 'b', 'c', 'h', 'o', 'l', 'k', 'g', 'a', 'l', 'j', 'b', 'g', 'g', 'k', 'q', 'x', 'l', 'm', 'x', '\n'].

## Optimization Result:

```
Loss = 126.50397572165369
gradients["dWaa"][1][2] = 0.19470931534720928
np.argmax(gradients["dWax"]) = 93
gradients["dWya"][1][2] = -0.007773876032003706
gradients["db"][4] = [-0.06809825]
gradients["dby"][1] = [0.01538192]
a_last[4] = [-1.]
```

## **Model Result:**

Iteration: 0, Loss: 23.087336

Nkzxwtmdmfqoeyhsqwasjkjvu  
Kneb  
Kzxwtmdmfqoeyhsqwasjkjvu  
Neb  
Zxwtmdmfqoeyhsqwasjkjvu  
Eb  
Xwtmdmfqoeyhsqwasjkjvu

Iteration: 2000, Loss: 27.884160

Liusskeomnolxeros  
Hmdaairus  
Hytroligoraurs  
Lecalosapaus  
Xusicikoraurs  
Abalpsamantisaurus  
Tpraneronxeros

Iteration: 4000, Loss: 25.901815

Mivrosaurus  
Inee  
Ivtroplisaurus  
Mbaaisaurus  
Wusichisaurus  
Cabaselachus  
Toraperlethosdarenitochusthiamamumamaon

Iteration: 6000, Loss: 24.608779

Onwusceomosaurus  
Lieeaerosaurus  
Lxussaurus  
Oma  
Xusteonosaurus  
Eeahosaurus  
Toreonosaurus

Iteration: 8000, Loss: 24.070350

Onxusichepriuon  
Kilabersaurus  
Lutrodon  
Omaaerosaurus  
Xutrccheps  
Edaksoje  
Trodiktonus

Iteration: 10000, Loss: 23.844446

Onyusaurus  
Klecalosaurus  
Lustodon  
Ola  
Xusodonia  
Eeaeosaurus  
Troceosaurus

Iteration: 12000, Loss: 23.291971

Onyxosaurus  
Kica  
Lustrepiosaurus  
Olaagrraiansaurus  
Yuspangosaurus  
Eealosaurus  
Trognosaurus

Iteration: 18000, Loss: 22.850885

Physshargosaurus  
Mela  
Mystrlopholus  
Pedaeshicarsaurus  
Yssphonosaurus  
Eiaesojedis  
Trodonosaurus

Iteration: 14000, Loss: 23.382338

Meutromodromurus  
Inda  
Iutroinatorsaurus  
Maca  
Yusteratoptititan  
Ca  
Troclosaurus

Iteration: 20000, Loss: 22.965274

Onyxus  
Loehalosaurus  
Mytrrangosaurus  
Olaabrondanthus  
Ytrrcharolumus  
Gaafosaurus  
Trrchchodylosaurus

Iteration: 16000, Loss: 23.276015

Meutosaurus  
Indabdosaurus  
Itrsaurus  
Macalosaurus  
Yuspandon  
Caahosaurus  
Trodon

Iteration: 22000, Loss: 22.760691

Phyusaurus  
Midacerkia  
Mustoeomiravenitan  
Peeaisphadoris  
Yusoches  
Habespgelblonomentopseghosaurus  
Trpangosaurus

Iteration: 24000, Loss: 22.607005

Onyxosaurus  
Licabator  
Lytroides  
Ola  
Yurollesaurus  
Egadosaurus  
Trocephieus

Iteration: 30000, Loss: 22.532136

Oryxisaurus  
Loca  
Lustreoenliusaures  
Pacaisig  
Xussancophydps  
Eg  
Stochisaurus

Iteration: 26000, Loss: 22.613780

Onyusaurus  
Ligaahusaneosaurus  
Lustolmanonykusacrimetantixan  
Olaadroncaosaurus  
Ytrodonosaurus  
Egagotha  
Trochenodyisaurus

Iteration: 32000, Loss: 22.298402

Nivusaurus  
Knacalosaurus  
Lustrasaurus  
Ndaairus  
Xuspandon  
Eg  
Trohaliumumsaurus

Iteration: 28000, Loss: 22.602377

Plutosaurus  
Llacahkuracisaurus  
Mustodonathypitanchespantiuan  
Pacaeskacdosaurus  
Ytrocepheluphiraptor  
Eiaeptia  
Trtarasaurus

Iteration: 34000, Loss: 22.429814

Onyxmigomalex  
Kica  
Lutrolomia  
Ola  
Xosalonghauglosaurus  
Ehadon  
Stlerdor