과제 #2. Fashion MNIST 데이터셋을 이용한 CNN 이미지 분류

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학습 시작 ~~~~
=== epoch:1, train acc:0.4723, test acc:0.4653 ===
=== epoch:2, train acc:0.90565, test acc:0.8863 ===
=== epoch:3, train acc:0.9219166666666667, test acc:0.8921 ===
=== epoch:4, train acc:0.9325, test acc:0.9024 ===
=== epoch:5, train acc:0.9370833333333334, test acc:0.9039 ===
=== epoch:6, train acc:0.9402833333333334, test acc:0.9052 ===
=== epoch:7, train acc:0.9477, test acc:0.908 ===
=== epoch:8, train acc:0.9514333333333334, test acc:0.9073 ===
=== epoch:9, train acc:0.9555166666666667, test acc:0.9105 ===
=== epoch:10, train acc:0.95925, test acc:0.9093 ===
=== epoch:11, train acc:0.9612833333333334, test acc:0.9118 ===
=== epoch:12, train acc:0.9627, test acc:0.913 ===
=== epoch:13, train acc:0.9672166666666666, test acc:0.9124 ===
=== epoch:14, train acc:0.9679666666666666, test acc:0.9134 ===
=== epoch:15, train acc:0.9698, test acc:0.9133 ===
=== epoch:16, train acc:0.9721, test acc:0.9149 ===
=== epoch:17, train acc:0.97245, test acc:0.9137 ===
최종 학습률 --> train_acc : 97.25%, test_acc : 91.37%
```

반복횟수와 손실함수값 추이 (AdaGrad사용했습니다) ▽

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In [26]:
# 손실 함수 값
x = np.arange(len(train_loss_list))
plt.plot(x, smooth_curve(train_loss_list), label='Momentum')
plt.xlabel("iterations")
plt.ylabel("loss")
plt.ylim(0, 1)
plt.legend()
plt.show()
```

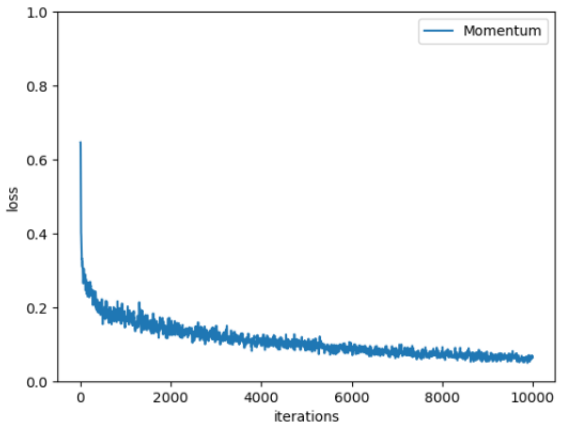

에폭 당 정확도 변화 ▽

```
In [27]:
# 에폭 당 정확도
markers = {'train': 'o', 'test': 's'}
x = np.arange(len(train_acc_list))
plt.plot(x, train_acc_list, label='train acc')
plt.plot(x, test_acc_list, label='test acc', linestyle='--')
plt.xlabel("epochs")
plt.ylabel("accuracy")
plt.ylim(0, 1.0)
plt.legend(loc='lower right')
plt.show()
```