

```
import pytest

from datetime import datetime

from swarms.artifacts.main_artifact import Artifact, FileVersion
```

```
def test_file_version():

    version = FileVersion(

        version_number=1,

        content="Initial content",

        timestamp=datetime.now(),

    )

    assert version.version_number == 1

    assert version.content == "Initial content"
```

```
def test_artifact_creation():

    artifact = Artifact(file_path="test.txt", file_type=".txt")

    assert artifact.file_path == "test.txt"

    assert artifact.file_type == ".txt"

    assert artifact.contents == ""

    assert artifact.versions == []

    assert artifact.edit_count == 0
```

```
def test_artifact_create():

    artifact = Artifact(file_path="test.txt", file_type=".txt")
```

```
artifact.create("Initial content")

assert artifact.contents == "Initial content"

assert len(artifact.versions) == 1

assert artifact.versions[0].content == "Initial content"

assert artifact.edit_count == 0
```

```
def test_artifact_edit():

    artifact = Artifact(file_path="test.txt", file_type=".txt")

    artifact.create("Initial content")

    artifact.edit("First edit")

    assert artifact.contents == "First edit"

    assert len(artifact.versions) == 2

    assert artifact.versions[1].content == "First edit"

    assert artifact.edit_count == 1
```

```
def test_artifact_get_version():

    artifact = Artifact(file_path="test.txt", file_type=".txt")

    artifact.create("Initial content")

    artifact.edit("First edit")

    version = artifact.get_version(1)

    assert version.content == "Initial content"
```

```
def test_artifact_get_contents():
```

```
artifact = Artifact(file_path="test.txt", file_type=".txt")

artifact.create("Initial content")

assert artifact.get_contents() == "Initial content"
```

```
def test_artifact_get_version_history():

    artifact = Artifact(file_path="test.txt", file_type=".txt")

    artifact.create("Initial content")

    artifact.edit("First edit")

    history = artifact.get_version_history()

    assert "Version 1" in history

    assert "Version 2" in history
```

```
def test_artifact_to_dict():

    artifact = Artifact(file_path="test.txt", file_type=".txt")

    artifact.create("Initial content")

    artifact_dict = artifact.to_dict()

    assert artifact_dict["file_path"] == "test.txt"

    assert artifact_dict["file_type"] == ".txt"

    assert artifact_dict["contents"] == "Initial content"

    assert artifact_dict["edit_count"] == 0
```

```
def test_artifact_from_dict():

    artifact_dict = {
```

```
"file_path": "test.txt",

"file_type": ".txt",

"contents": "Initial content",

"versions": [

    {

        "version_number": 1,

        "content": "Initial content",

        "timestamp": datetime.now().isoformat(),

    }

],

"edit_count": 0,

}

artifact = Artifact.from_dict(artifact_dict)

assert artifact.file_path == "test.txt"

assert artifact.file_type == ".txt"

assert artifact.contents == "Initial content"

assert artifact.versions[0].content == "Initial content"

assert artifact.edit_count == 0
```

Run the tests

```
if __name__ == "__main__":

    pytest.main()
```