

We have programs for 4 autonomous starting positions: small red, big red, small blue, big blue, and a driver-controlled program called Tele-Op. The Blocks programming does not have a print function, so we copied and pasted our code into a Word document the best we could.

1. Big Red

The screenshot displays the FIRST Blocks programming environment. The top bar shows 'FIRST: robot controller console', 'Blocks', 'OnBotJava', and 'Manage'. Below this are buttons for 'Save Op Mode' and 'Download Op Mode'. The 'Op Mode Name' is set to '2. Big Red' and the mode is 'Autonomous'. A left sidebar lists categories: LinearOpMode, Gamepad, Actuators, Sensors, Other Devices, Android, Utilities, Logic, Loops, Math, Text, Lists, Variables, Functions, and Miscellaneous. The main workspace contains the following code blocks:

```

to runOpMode
  Initialize Vuforia (use default settings)
  call Vuforia . initialize
    cameraDirection BACK
    useExtendedTracking true
    enableCameraMonitoring true
    cameraMonitorFeedback AXES
    phoneLocationOnRobot translation dx 0
    phoneLocationOnRobot translation dy 0
    phoneLocationOnRobot translation dz 0
    phoneLocationOnRobot rotation x 0
    phoneLocationOnRobot rotation y 0
    phoneLocationOnRobot rotation z 0
    useCompetitionFieldTargetLocations true
  Prompt user to push start button
  call AndroidTextToSpeech . initialize
  call Telemetry . update
  call AndroidTextToSpeech . setLanguage
    languageCode en
    countryCode US
  call Telemetry . update
  Wait until user pushes start button
  call 2. Big Red . waitForStart

call Vuforia . activate
Get the tracking results
call 2. Big Red . sleep
  milliseconds 1000
set vuMarkResult to call Vuforia . track
  trackableName RELIC
call 2. Big Red . sleep
  milliseconds 1000
Is a VuMark visible?
if VuforiaTrackingResults . isVisible
  vuuforiaTrackingResults vuMarkResult
do
  Yes, we see one
  What type of Relic VuMark is it?
  call Telemetry . addData
    key VuMark
    text A VuMark is visible.
  call Telemetry . update
  if VuforiaTrackingResults . RelicRecoveryVuMark = RelicRecoveryVuMark . LEFT
  do
    call AndroidTextToSpeech . speak
      text I can see the left!
    call Telemetry . addData
      key Relic Target
      text Go for the LEFT goal!
    call Telemetry . update
  Deactivate before exiting
  call Vuforia . deactivate

```

























