ꯑꯦꯗꯤꯇꯣꯔꯤꯌꯦꯜ IMPHAL, WEDNESDAY, DECEMBER 08, 2021 ꯌꯨꯝꯁꯀꯩꯁ, ꯄꯣꯏꯅꯨꯒꯤ 5ꯅꯤ ꯄꯥꯟꯕ, ꯃꯥꯂꯤꯌꯥ ꯀꯨꯝꯁꯤꯡ 3419 obT\ꯂꯩ ꯃꯀꯩꯋ꯭ꯀ 2 HUEIYEN LANPAO

ꯄꯥꯎꯆꯦ ꯑꯁꯤꯗ ꯐꯣꯡꯖꯔꯤꯕ ꯋꯥꯔꯦꯡꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯋꯥꯈꯜ, ꯃꯤꯠꯌꯦꯡ ꯑꯏꯕ ꯃꯁꯥ ꯃꯁꯥꯒꯤꯅꯤ꯫ ꯄꯥꯎꯆꯦ ꯑꯁꯤꯒ ꯄꯥꯎꯆꯦ ꯑꯁꯤꯒꯤ ꯋꯥꯈꯜꯂꯣꯟ ꯑꯃꯁꯨꯡ ꯃꯤꯠꯌꯦꯡꯒ ꯊꯣꯏꯗꯣꯛꯅ ꯃꯔꯤ ꯂꯩꯅꯗꯦ꯫

ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ
ꯌꯨꯝꯁꯀꯩꯁ, ꯗꯤꯁꯦꯝꯕꯔ 08, 2021, ꯏꯝꯐꯥꯜ
13 ꯁꯨꯕ ꯆꯍꯤ, 232 ꯁꯨꯕ ꯃꯁꯤꯡ
ꯁ꯭ꯄꯤꯀꯔꯒꯤ ꯑꯆꯨꯝꯕ ꯈꯣꯡꯊꯥꯡꯅꯤ
ꯌꯥꯗꯦ ꯍꯥꯏꯕ ꯈꯪꯍꯟꯒꯗꯕꯅꯤ
ꯑꯅꯧꯕ ꯃꯤꯈꯜ ꯑꯃ ꯄꯥꯡꯊꯣꯛꯂꯝꯗꯥꯏꯗ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤ
ꯑꯃꯗꯒꯤ ꯑꯃꯗ ꯐꯟ-ꯐꯥ, ꯐꯟ-ꯐꯥ ꯇꯧꯗꯨꯅ ꯆꯣꯡꯊꯣꯛ-ꯆꯣꯡꯁꯤꯟ ꯇꯧꯔꯛꯄ
ꯍꯥꯏꯕꯁꯤꯗꯤ ꯍꯧꯅꯕꯤꯅꯤ꯫ ꯂꯩꯕꯥꯛꯁꯤꯗ ꯆꯠꯅꯔꯛꯂꯤꯕ, ꯑꯣꯏꯔꯛꯂꯤꯕ
ꯄꯣꯂꯤꯇꯤꯛꯁ ꯑꯃꯁꯨꯡ ꯄꯣꯂꯤꯇꯤꯀꯦꯜꯒꯤ ꯑꯣꯏꯕ ꯃꯆꯠꯅꯤ꯫ ꯍꯦꯟꯅ
ꯐꯕ, ꯃꯄꯥꯡꯒꯜ ꯀꯟꯕ, ꯃꯤꯌꯥꯝꯅ ꯄꯥꯝꯅꯕ ꯃꯤꯈꯜ ꯃꯇꯨꯡꯗ ꯂꯩꯕꯥꯛꯀꯤ
ꯋꯥꯌꯦꯜ ꯊꯧꯗꯥ ꯄꯥꯏꯔꯛꯄ ꯉꯝꯒꯅꯤ ꯊꯥꯖꯕ ꯄꯥꯔꯇꯤꯗ ꯃꯩꯔꯥꯝꯕꯤꯅ ꯃꯩꯔꯤꯗ
ꯆꯣꯡꯁꯤꯟꯕꯒꯨꯝ ꯆꯣꯡꯁꯤꯟꯅꯕꯒꯤ ꯊꯕꯛꯁꯤ ꯑꯗꯨꯝꯃꯛ ꯇꯧꯗꯨꯅ ꯂꯥꯛꯏ꯫
ꯍꯧꯖꯤꯛ 12ꯁꯨꯕ ꯃꯅꯤꯄꯨꯔ ꯂꯦꯖꯤꯁꯂꯦꯇꯤꯚ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯒꯤ ꯃꯤꯈꯜ
ꯄꯥꯡꯊꯣꯛꯂꯒꯗꯕ ꯃꯇꯝ ꯅꯛꯁꯤꯜꯂꯛꯄꯁꯤꯗ ꯇꯧꯔꯛꯂꯤꯕ ꯑꯁꯤꯅ ꯑꯍꯥꯟꯕ
ꯅꯠꯇꯦ꯫ ꯊꯕꯛꯁꯤꯗ ꯃꯄꯥꯡꯒꯜ ꯀꯜꯂꯛꯀꯗꯕ, ꯀꯦꯟꯗꯤꯗꯦꯠ ꯃꯁꯤꯡ
ꯌꯥꯝꯅ ꯃꯥꯏ ꯄꯥꯛꯂꯛꯀꯗꯕ ꯄꯥꯔꯇꯤ ꯑꯃꯕꯨ ꯁꯥꯌꯦꯡ-ꯄꯥꯝꯕꯣꯝ ꯉꯥꯅꯔꯤꯕ
ꯄꯥꯔꯇꯤ ꯑꯃꯅ ꯅꯠꯇ꯭ꯔꯒ ꯈꯔꯅ ꯃꯥꯟꯅꯔꯒ ꯂꯥꯛꯊꯨꯗꯨꯅ ꯆꯤꯡꯊꯨꯔꯒ
ꯊꯨꯒꯥꯏꯅꯕ ꯍꯣꯠꯅꯅꯕꯒꯤ ꯑꯀꯟꯕ ꯊꯕꯛꯁꯤꯡꯁꯨ ꯌꯥꯎꯔꯤꯕꯅꯤ꯫ ꯇꯧꯖꯁꯅꯨ,
ꯃꯥꯒꯤ ꯃꯥꯒꯤ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤꯁꯤꯡꯒꯤ, ꯃꯤꯔꯦꯞ ꯑꯣꯏꯒꯗꯕꯁꯤꯡꯒꯤ
ꯑꯄꯥꯝ-ꯑꯄꯥꯝꯕꯅꯤ꯫ ꯂꯩꯕꯥꯛꯁꯤꯗ ꯆꯠꯅꯔꯤꯕ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤꯒꯤ ꯑꯣꯏꯕ
ꯃꯆꯠꯅꯤ꯫ ꯑꯗꯨꯕꯨ ꯅꯣꯡꯖꯨ ꯊꯥꯗ ꯍꯉꯣꯏ ꯈꯣꯡꯕꯗꯧꯅ ꯇꯧꯅꯔꯛꯂꯤꯕ ꯊꯕꯛꯁꯤꯗ
ꯏꯂꯦꯛꯇꯦꯗ ꯑꯦꯝ ꯑꯦꯜ ꯑꯦꯁꯤꯡꯁꯨ ꯍꯦꯛ-ꯍꯦꯛ ꯌꯥꯎꯁꯤꯜꯂꯛꯏ꯫ ꯃꯇꯥꯡꯁꯤ
ꯌꯧꯁꯤꯜꯂꯛꯄꯗꯗꯤ ꯀꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟ ꯑꯣꯐ ꯏꯟꯗꯤꯌꯥꯒꯤ ‘ꯇꯦꯟꯊ ꯁꯦꯗ꯭ꯌꯨꯜ’
ꯍꯥꯏꯕ’ꯃ ꯂꯩ ꯍꯥꯏꯕꯁꯤꯗꯤ ꯀꯥꯎꯍꯟꯅꯤꯡꯗꯦ꯫ ꯁꯦꯗ꯭ꯌꯨꯜꯁꯤꯒꯤ ꯆꯠꯅ-
ꯀꯥꯡꯂꯣꯟ ꯉꯥꯛꯅ ꯆꯠꯍꯟꯅꯤꯡꯏ꯫ ꯏꯟꯗꯨꯅ ꯉꯥꯛꯇꯨꯅ ꯆꯠꯄꯁꯨ ꯆꯨꯝꯒꯅꯤ
ꯍꯥꯏꯕꯒꯤ ꯋꯥꯅꯤ꯫ ꯃꯔꯝꯗꯤ ꯁ꯭ꯇꯦꯠ ꯑꯃꯒꯤ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯋꯥꯡꯕ ꯂꯣ ꯃꯦꯀꯤꯡ
ꯕꯣꯗꯤ /ꯏꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟ ꯑꯣꯏꯔꯤꯕ ꯂꯦꯖꯤꯁꯂꯦꯇꯤꯚ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯒꯤ
ꯃꯦꯝꯕꯔ-ꯑꯦꯝ ꯑꯦꯜ ꯑꯦ ꯂꯩꯕꯥꯛꯁꯤꯗ ꯆꯠꯅꯔꯤꯕ ꯂꯣ ꯃꯈꯨꯠꯅ ꯄꯥꯏꯗꯨꯅ
ꯊꯨꯒꯥꯏꯔꯣꯏꯗꯕꯅꯤ꯫ ꯑꯦꯝ ꯑꯦꯜ ꯑꯦꯃꯛꯅ ꯂꯣ ꯚꯥꯏꯑꯣꯂꯦꯠ ꯇꯧꯔꯛꯂꯒꯗꯤ
ꯃꯤꯆꯝ ꯃꯤꯌꯥꯝꯒꯤ ꯃꯔꯛꯇꯒꯤꯁꯨ ꯂꯣꯕꯨ ꯄꯨꯅꯤꯡꯕ ꯄꯨꯗꯨꯅ ꯁꯤꯖꯤꯟꯅꯕ
ꯌꯥꯎꯔꯛꯂꯣꯏꯗ꯭ꯔꯥ ꯍꯥꯏꯕ ꯋꯥꯍꯪ ꯆꯣꯡꯊꯣꯔꯛꯀꯅꯤ꯫
ꯆꯣꯡꯊꯣꯛꯄꯤꯌꯨ, ꯆꯣꯡꯁꯤꯟꯕꯤꯌꯨ, ꯑꯄꯥꯝꯕꯇ ꯇꯧꯅꯕꯤꯌꯨ, ꯑꯐ-ꯐꯠꯇ
ꯃꯁꯥ-ꯃꯁꯥꯒꯤꯅꯤ꯫ ꯃꯥꯅ ꯇꯧꯕꯅ ꯃꯥꯅ ꯐꯪꯕꯅꯤ꯫ ꯀꯔꯤꯁꯨ ꯀꯥꯏꯗꯦ꯫ ꯑꯗꯨꯕꯨ
ꯂꯣꯕꯨꯗꯤ ꯈꯣꯡꯒꯥꯎꯅꯕ ꯑꯃꯁꯨꯡ ꯐꯨꯔꯤꯠꯈꯥꯎꯗ ꯍꯥꯞꯆꯤꯟꯕꯒꯤ ꯊꯧꯑꯣꯡ
ꯆꯠꯊꯔꯛꯀꯅꯨ ꯍꯥꯏꯕꯅꯤ꯫ ꯃꯅꯤꯄꯨꯔ ꯁ꯭ꯇꯦꯠ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯒꯤ 11ꯁꯨꯕ
ꯃꯤꯈꯜꯗ ꯀꯣꯡꯒ꯭ꯔꯦꯁꯀꯤ ꯇꯤꯀꯦꯠꯇ ꯀꯥꯔꯛꯄꯁꯤꯡꯒꯤ ꯃꯅꯨꯡꯗꯒꯤ ꯐꯅ
ꯌꯥꯝꯅ ꯆꯣꯡꯈ꯭ꯔꯦ꯫ ꯃꯈꯣꯏꯒꯤ ꯃꯔꯛꯇꯒꯤ ‘ꯇꯦꯟꯊ ꯁꯦꯗ꯭ꯌꯨꯜ’ ꯒꯤ ꯋꯥꯡꯂꯕ,
ꯆꯦꯠꯂꯕ ꯄꯜꯗ ꯄꯅꯕꯗꯒꯤ ꯇꯦꯛꯇꯨꯅ ꯁꯜꯂꯒ ꯇꯥꯕꯁꯨ ꯌꯥꯎꯈ꯭ꯔꯦ꯫ ꯈꯔꯅ
ꯇꯥꯐꯝ ꯆꯥꯗꯅ ꯇꯥꯁꯤꯟꯕꯗꯒꯤ ꯗꯤꯁꯀ꯭ꯋꯥꯂꯤꯐꯤꯀꯦꯁꯟ ꯃꯥꯌꯣꯛꯅꯔꯕꯁꯨ ꯑꯃꯨꯛ
ꯍꯧꯒꯠꯂꯛꯂꯇꯨꯅ ꯕꯥꯏ-ꯏꯂꯦꯛꯁꯟꯗ ꯀꯥꯔꯛꯇꯨꯅ ꯃꯤꯅꯤꯁꯇꯔ ꯑꯣꯏꯕ ꯐꯥꯎꯕ
ꯌꯥꯎꯔꯤ꯫ ꯃꯥꯅ-ꯃꯥꯅ ꯉꯝꯕ ꯇꯧꯅꯖꯕꯅꯤ꯫ ꯄꯣꯂꯤꯇꯤꯛꯁ ꯍꯥꯏꯕꯁꯤꯗꯤ ꯄꯋꯥꯔꯒꯤ
ꯂꯥꯟꯅꯤ, ꯁꯣꯛꯅꯖꯁꯅꯨ꯫ ꯑꯗꯨꯕꯨ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤ ꯑꯃꯒꯤ ꯑꯦꯝ ꯑꯦꯜ
ꯑꯦꯅ ꯑꯇꯣꯞꯄ ꯄꯥꯔꯇꯤ ꯑꯃꯗ ꯍꯦꯛꯇ ꯍꯣꯠꯆꯤꯟꯗꯨꯅ ꯆꯣꯡꯁꯤꯟꯕꯗꯤ
ꯌꯥꯗꯦ꯫ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤꯒꯤ ꯅꯠꯇꯅ ꯏꯟꯗꯤꯄꯦꯟꯗꯦꯟꯠ ꯑꯦꯝ ꯑꯦꯜ ꯑꯦ
ꯐꯥꯝꯕꯒꯤ ꯃꯊꯛꯇ ꯍꯉꯣꯏꯗꯧꯅ ꯆꯣꯡꯂꯛꯂꯕꯗꯤ ꯆꯣꯡꯂꯤꯕ ꯑꯋꯥꯡꯕ ꯃꯈꯣꯡꯗꯨ
ꯀꯛꯀꯗꯕ ꯂꯣ ꯂꯩ ꯍꯥꯏꯕꯅꯤ꯫ ꯑꯗꯨꯅ ꯆꯣꯡꯒꯦ ꯍꯥꯏꯔꯒꯅ ꯍꯥꯟꯅ ꯑꯦꯝ ꯑꯦꯜ
ꯑꯦ ꯑꯣꯏꯕꯗꯒꯤ ꯇꯣꯛꯀꯗꯕꯅꯤ꯫ ꯑꯗꯨꯒ ꯑꯄꯥꯝꯕ ꯄꯥꯔꯇꯤꯗ ꯆꯣꯡꯒꯗꯕꯅꯤ꯫
ꯃꯁꯤꯒꯤꯗꯃꯛ ꯀꯣꯡꯒ꯭ꯔꯦꯁꯀꯤ ꯄ꯭ꯔꯁꯤꯗꯦꯟꯠ ꯐꯥꯎꯕ ꯑꯣꯏꯔꯝꯈꯤꯕ ꯑꯦꯝ
ꯑꯦꯜ ꯑꯦ ꯑꯃ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯒꯤ ꯃꯦꯝꯕꯔ ꯑꯣꯏꯕꯗꯒꯤ ꯇꯣꯛꯄꯒꯤ ꯃꯊꯛꯇ
ꯄꯥꯔꯇꯤꯒꯤ ꯃꯦꯝꯕꯔ ꯑꯣꯏꯕꯗꯒꯤ ꯐꯥꯎꯕ ꯇꯣꯛꯂꯒ ꯄꯥꯝꯖꯕ ꯄꯥꯔꯇꯤꯗ ꯆꯪꯈꯤ꯫

ꯃꯅꯥ-ꯃꯅꯤꯜ ꯅꯥꯏꯈꯤꯗꯦ꯫ ꯑꯗꯨꯕꯨ ꯑꯦꯝ ꯑꯦꯜ ꯑꯦ ꯑꯣꯏꯕꯒꯤ ꯄ꯭ꯔꯤꯚꯤꯂꯦꯖꯁꯨ
ꯐꯪꯅꯤꯡꯕ, ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯒꯤ ꯃꯦꯝꯕꯔ ꯑꯃ ꯑꯣꯏꯕꯒꯤ ꯈꯨꯗꯣꯡꯆꯥꯕꯁꯤꯡꯁꯨ
ꯄꯥꯝꯒ ꯑꯄꯥꯝꯕ ꯄꯥꯔꯇꯤ ꯑꯃꯗ ꯆꯣꯡꯊꯣꯛ-ꯆꯣꯡꯁꯤꯟꯅ ꯀꯥꯅꯕꯁꯤꯡꯁꯨ
ꯍꯟꯊꯍꯟꯗꯅ ꯐꯪꯒꯦ ꯍꯥꯏꯕꯗꯨꯗꯤ ꯌꯥꯔꯣꯏ, ꯗꯤꯁꯀ꯭ꯋꯥꯂꯤꯐꯤꯀꯦꯁꯟꯒꯤ ꯊꯧꯔꯕ
ꯊꯥꯡꯁꯥꯡ ꯂꯩ꯫ ꯍꯧꯖꯤꯛ ꯌꯣꯠꯅ ꯁꯣꯛꯄ ꯍꯉꯣꯏꯗꯧꯅ ꯈꯞ-ꯈꯞ ꯆꯣꯡꯂꯒ ꯂꯦꯟꯕ
ꯌꯥꯎꯔꯤꯕꯁꯤ ꯀꯥꯎꯊꯣꯛꯄ ꯆꯨꯝꯂꯣꯏ꯫ ꯂꯩꯕꯥꯛꯁꯤꯒꯤ ꯂꯣ ꯂꯩ, ꯆꯠꯅꯔꯤ꯫ ꯃꯔꯝ
ꯑꯁꯤꯅ ꯍꯧꯖꯤꯛ ꯊꯦꯡꯕꯂꯁꯨ ꯊꯦꯡꯅ ꯏꯂꯦꯛꯁꯟ ꯃꯌꯥ ꯅꯛꯁꯤꯜꯂꯛꯄꯒꯤ
ꯈꯨꯗꯣꯡꯆꯥꯕ ꯂꯧꯔꯕ ꯑꯅꯧꯕ ꯄꯥꯔꯇꯤ ꯑꯃꯗꯁꯨ ꯆꯣꯡꯁꯤꯟꯕ, ꯑꯦꯝ ꯑꯦ
ꯑꯣꯏꯕꯒꯤ ꯑꯣꯏꯖ-ꯑꯣꯏꯊꯛꯁꯨ ꯂꯧꯒꯦ ꯍꯥꯏꯔꯛꯄ ꯑꯦꯝ ꯑꯦꯜ ꯑꯦꯁꯤꯡꯒꯤ
ꯃꯊꯛꯇ ꯀꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟ ꯑꯣꯐ ꯏꯟꯗꯤꯌꯥꯒꯤ ꯇꯦꯟꯊ ꯁꯦꯗ꯭ꯌꯨꯜꯒꯤ ꯃꯈꯑꯗ
ꯑꯁꯦꯝꯕ꯭ꯂꯤꯗ ꯂꯤꯡꯂꯤꯕ ꯇ꯭ꯔꯥꯏꯕ꯭ꯌꯨꯅꯦꯜꯒꯤ ꯄ꯭ꯔꯤꯁꯥꯏꯗꯤꯡ ꯑꯣꯐꯤꯁꯔ
ꯑꯣꯏꯔꯤꯕ ꯁ꯭ꯄꯤꯀꯔꯅ ꯗꯤꯁꯀ꯭ꯋꯥꯂꯤꯐꯤꯀꯦꯁꯟꯒꯤ ꯊꯕꯛ ꯂꯧꯈꯠꯂꯛꯂꯤꯕꯁꯤ
ꯑꯆꯨꯝꯕ ꯈꯣꯡꯊꯥꯡꯅꯤ꯫ ꯏꯂꯦꯛꯁꯟ ꯀꯝꯃꯤꯁꯟ ꯑꯣꯐ ꯏꯟꯗꯤꯌꯥ (ꯏ ꯁꯤ ꯑꯥꯏ)
ꯅ ꯃꯤꯈꯜꯒꯤ ꯅꯣꯇꯤꯐꯤꯀꯦꯁꯟ ꯊꯣꯛꯄꯅ ꯍꯥꯟꯖꯤꯜꯂꯛꯂꯕꯁꯨ ꯁ꯭ꯄꯤꯀꯔꯅ
ꯌꯥꯗꯦ ꯍꯥꯏꯕ’ꯃ ꯈꯪꯍꯜꯍꯧꯅꯕ ꯊꯕꯛ ꯄꯥꯏꯈꯠꯂꯛꯄꯁꯤ ꯇꯧꯐꯝ ꯊꯣꯛꯄꯅꯤ꯫
ꯀꯅꯥꯃꯠꯇꯅ ꯂꯩꯕꯥꯛꯁꯤꯒꯤ ꯆꯠꯅꯔꯤꯕ ꯂꯣꯒꯤ ꯃꯊꯛꯇ ꯂꯩꯇꯦ ꯍꯥꯏꯕꯁꯤ
ꯃꯃꯤꯠꯇ ꯈꯨꯗꯣꯝꯕꯤꯅ ꯊꯤꯜꯂꯒ ꯇꯥꯛꯀꯗꯕꯅꯤ꯫

ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ ꯂꯤꯇꯔꯦꯔꯤ ꯀ꯭ꯋꯤꯖ - 31
ꯃꯊꯛꯇ ꯄꯤꯔꯤꯕ ꯋꯥꯍꯪꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯄꯥꯎꯈꯨꯝ ꯗꯤꯁꯦꯝꯕꯔ 15, ꯌꯨꯝꯁꯀꯩꯁ ꯅꯨꯃꯤꯠꯀꯤ ꯑꯌꯨꯛ ꯄꯨꯡ
11 faUbgi mnuZd paUce Asigi Aofist nTtrB I-meL hueiyenliteraryquiz@
gmail.ꯆꯣꯃ ꯁꯤꯗ ꯃꯦꯜ ꯑꯣꯏꯅ ꯊꯥꯕꯤꯔꯛꯄ ꯌꯥꯒꯅꯤ꯫ ꯄꯥꯎꯈꯨꯝ ꯄꯤꯕꯤꯔꯛꯄ/ꯊꯥꯕꯤꯔꯛꯄ ꯃꯇꯝꯗ
ꯃꯤꯡ, ꯂꯩꯐꯝ, ꯃꯍꯩꯒꯤ ꯊꯥꯛ ꯑꯃꯁꯨꯡ ꯀꯟꯇꯦꯛꯠ ꯅꯝꯕꯔ ꯃꯌꯦꯛ ꯁꯦꯡꯅ ꯏꯕꯤꯔꯛꯎ꯫ ꯋꯥꯍꯪ ꯈꯨꯗꯤꯡꯃꯛꯀꯤ
ꯄꯥꯎꯈꯨꯝ ꯆꯨꯝꯅ ꯅꯠꯇ꯭ꯔꯒ ꯃꯁꯤꯡ ꯌꯥꯝꯅ ꯆꯨꯝꯅ ꯄꯤꯕꯤꯔꯛꯄ ꯃꯤꯑꯣꯏꯁꯤꯡ ꯑꯗꯨꯗꯒꯤ ꯗ꯭ꯔꯣ ꯑꯣꯠꯆꯔꯒ
ꯂꯥꯏꯕꯛ ꯐꯕ ꯃꯤꯁꯛ ꯑꯃ ꯈꯟꯖꯒꯅꯤ꯫ ꯂꯣꯏꯅꯅ ꯈꯜꯂꯕ ꯃꯤꯁꯛ ꯑꯗꯨꯗ ꯃꯅꯥ ꯄꯤꯖꯒꯅꯤ꯫

1| “ꯁꯤꯉꯦꯟ ꯅꯥꯆꯣꯝ” ꯍꯥꯏꯕ ꯀꯨꯝꯖꯥ 1939ꯗ ꯑꯍꯥꯟꯕ ꯐꯣꯡꯈꯤꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤꯒꯤ ꯑꯏꯕ
ꯀꯅꯥꯅꯣ ꯑꯃꯁꯨꯡ ꯀꯔꯝꯕ ꯃꯈꯜꯒꯤ ꯂꯥꯏꯔꯤꯛꯅꯣ?
2| “ꯇꯝꯊꯤꯕ ꯅꯣꯡꯂꯩ” ꯍꯥꯏꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤ ꯑꯣꯔꯤꯖꯤꯅꯦꯜ ꯀꯅꯥꯅ ꯏꯕ, ꯀꯔꯤ ꯂꯣꯜꯒꯤ
ꯂꯥꯏꯔꯤꯛꯇꯒꯤ ꯃꯅꯤꯄꯨꯔꯤꯗ ꯀꯅꯥꯅ ꯍꯟꯗꯣꯛꯄꯒꯦ?
3| “ꯋꯥꯈꯜꯒꯤ ꯃꯔꯣꯜ ꯃꯔꯣꯜ ꯅꯥꯏꯔꯕ ꯆꯦꯅꯥꯁꯤꯡ/ꯑꯥꯁꯥꯒꯤ ꯋꯥꯡꯈꯠꯈ꯭ꯔꯕ ꯇꯦꯂꯪꯒꯥꯁꯤꯡ/ꯀꯣꯏꯂꯩ
ꯀꯣꯏꯂꯩ/ꯑꯀꯟꯕ ꯅꯨꯡꯁꯤꯠꯅ/ꯍꯨꯝꯗꯣꯛꯈ꯭ꯔꯤ ꯑꯁꯨꯝ ꯏꯀꯨꯝ ꯑꯣꯏꯅ/ ꯊꯝꯃꯣꯏꯅꯨꯡꯗꯒꯤ/
ꯃꯔꯨ ꯐꯨꯛꯈ꯭ꯔꯤ ꯃꯪꯂꯥꯟ ꯌꯥꯎꯅ꯫” ꯁꯩꯔꯦꯡ ꯃꯇꯦꯛ ꯑꯁꯤ ꯀꯅꯥꯅ ꯏꯕ ꯀꯔꯤ ꯂꯥꯏꯔꯤꯛꯇ
ꯌꯥꯎꯕ ꯀꯔꯝꯕ ꯁꯩꯔꯦꯡꯗꯒꯤꯅꯣ?
4| “ꯄꯣꯏꯔꯩ ꯅꯥꯠꯀꯤ ꯋꯥꯔꯦꯡ” ꯍꯥꯏꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤꯒꯤ ꯑꯏꯕ ꯀꯅꯥꯅꯣ?
5| “ꯀꯦꯀꯨ ꯂꯣꯠꯄꯤ” ꯍꯥꯏꯕꯁꯤ ꯑꯏꯕ ꯀꯅꯥꯅ ꯏꯕ, ꯀꯔꯝꯕ ꯃꯈꯜꯒꯤ ꯂꯥꯏꯔꯤꯛꯅꯣ?

ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ ꯂꯤꯇꯔꯦꯔꯤ ꯀ꯭ꯋꯤꯖ-30ꯒꯤ ꯑꯆꯨꯝꯕ ꯄꯥꯎꯈꯨꯝ ꯊꯥꯕꯤꯔꯛꯈꯤꯕꯁꯤꯡꯗꯤ
1) ꯑꯅꯟꯗꯀꯨꯃꯥꯔ ꯈꯨꯟꯖꯥꯃꯌꯨꯝ, ꯇꯥꯎꯊꯣꯡ ꯑꯌꯨꯡꯕ ꯃꯌꯥꯏ ꯂꯩꯀꯥꯏ - (1,2,4,5)
2) ꯃꯥꯏꯁ꯭ꯅꯥꯝ ꯕꯨꯙ, ꯆꯤꯡꯉꯥꯃꯈꯥ ꯃꯥꯏꯁ꯭ꯅꯥꯝ ꯂꯩꯀꯥꯏ - (4,5)
3) ꯑꯀꯣꯏꯖꯝ ꯅꯣꯡꯃꯥꯏꯅꯤꯡꯊꯧ, ꯈꯨꯟꯗ꯭ꯔꯥꯛꯄꯝ ꯃꯈꯥ ꯂꯩꯀꯥꯏ - (2,4,5)
4) ꯊꯤꯌꯥꯝ ꯔꯥꯖꯦꯟꯗ꯭ꯔ ꯂꯨꯋꯥꯡ, ꯔꯥꯏꯖꯤꯡ ꯁꯟ ꯗ꯭ꯔꯦꯁꯦꯁ ꯊꯥꯡꯃꯩꯕꯟꯗ ꯊꯥꯎ ꯀꯝꯄ꯭ꯂꯦꯛꯁ - (3,4)
ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ ꯂꯤꯇꯔꯦꯔꯤ ꯀ꯭ꯋꯤꯖ-30ꯒꯤ ꯋꯤꯟꯅꯔ
ꯑꯅꯟꯗꯀꯨꯃꯥꯔ ꯈꯨꯟꯖꯥꯃꯌꯨꯝ, ꯇꯥꯎꯊꯣꯡ ꯑꯌꯨꯡꯕ ꯃꯌꯥꯏ ꯂꯩꯀꯥꯏ
ꯂꯤꯇꯔꯦꯔꯤ ꯀ꯭ꯋꯤꯖ-30ꯒꯤ ꯁꯦꯜꯒꯤ ꯃꯅꯥ ꯑꯁꯤ ꯋꯤꯟꯅꯔ ꯑꯣꯏꯔꯕ ꯃꯤꯑꯣꯏ ꯑꯁꯤꯒꯤ
ꯕꯦꯡꯛ ꯑꯦꯀꯥꯎꯟꯠꯇ ꯑꯣꯏꯅ ꯍꯥꯞꯆꯤꯟꯖꯔꯒꯅꯤ꯫

ꯍꯧꯈꯤꯕ ꯆꯍꯤꯗ Tufts ꯎꯅꯤꯚꯦꯔꯁꯤꯇꯌꯑꯃꯁꯨꯡꯎꯅꯤꯚꯦꯔꯁꯤꯇꯌ of Vermont (UVM) ꯀꯤ ꯕꯥꯏꯑꯣꯂꯣꯖꯤꯁꯠ ꯑꯃꯁꯨꯡ ꯀꯝꯄ꯭ꯌꯨꯇꯔ ꯁꯥꯏꯟꯇꯤꯁꯠꯁꯤꯡꯒꯤ ꯊꯤꯖꯤꯟ-ꯂꯨꯞ ꯑꯃꯅ Xenopus laevis ꯍꯥꯏꯅ ꯈꯪꯅꯕ ꯍꯉꯣꯏ ꯃꯈꯜꯁꯤꯒꯤ ꯑꯦꯝꯕ꯭ꯔꯤꯑꯣꯁꯤꯡꯕꯨ ꯁꯦꯝꯗꯣꯛ ꯁꯥꯗꯣꯛꯂꯕ ꯃꯇꯨꯡꯗ ꯌꯥꯝꯅ ꯄꯤꯛꯄ, ꯃꯔꯣꯝꯗꯣꯝ ꯆꯥꯎꯈꯠꯆꯔꯛꯄ ꯉꯝꯕ ꯑꯅꯧꯕ ꯑꯍꯤꯡꯕ ꯖꯤꯕꯁꯤꯡ ꯁꯦꯝꯒꯠꯄ ꯉꯝꯂꯦ ꯍꯥꯏꯕꯒꯤ ꯄꯥꯎꯗꯝ ꯑꯃ ‘ꯄ꯭ꯔꯣꯁꯤꯗꯤꯡꯁ ꯑꯣꯐ ꯅꯦꯁꯅꯜ ꯑꯦꯀꯥꯗꯦꯃꯤ ꯑꯣꯐ ꯁꯥꯏꯟꯁꯦꯁ’ (ꯖꯅ꯭ꯌꯨꯋꯥꯔꯤ 13, 2020) ꯇ ꯐꯣꯡꯗꯣꯔꯛꯈꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ ꯑꯍꯤꯡꯕ ꯖꯤꯕꯒꯤ ꯃꯑꯣꯡꯁꯤꯡ ꯑꯁꯤꯕꯨ ‘ꯖꯦꯅꯣꯕꯣꯠ’ ꯍꯥꯏꯅ ꯈꯪꯅꯔꯛꯈꯤ꯫ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯅ ꯇꯥꯔꯒꯦꯠ ꯑꯃ ꯇꯝꯅ ꯆꯠꯄ, (ꯑꯅꯥꯕ ꯃꯤ ꯑꯃꯒꯤ ꯍꯛꯆꯥꯡ ꯃꯅꯨꯡꯒꯤ ꯑꯈꯟꯅꯕ ꯃꯐꯝ ꯑꯃꯗ ꯄꯨꯕꯒꯤ ꯗꯔꯀꯥꯔ ꯑꯣꯏꯕ ꯍꯤꯗꯥꯛꯀꯨꯝꯕ) ꯄꯦꯂꯣꯗ ꯑꯃꯕꯨ ꯂꯧꯈꯠꯄ ꯑꯃꯁꯨꯡ ꯏꯟꯕ ꯑꯃꯁꯨꯡ ꯑꯇꯣꯞꯄ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯒ ꯂꯣꯏꯅꯅ, ꯍꯌꯤꯡꯈꯣꯏꯁꯤꯡꯅ ꯆꯕꯨꯟ-ꯆꯕꯨꯟ ꯄꯥꯏꯕꯒꯨꯝꯅ, ꯄꯨꯜꯂꯞ ꯄꯨꯟꯅ ꯁꯥꯟꯅꯕ ꯉꯝꯂꯝꯃꯤ꯫
ꯌꯨ ꯚꯤ ꯑꯦꯝꯒꯤ ꯀꯝꯄ꯭ꯌꯨꯇꯔ ꯁꯥꯏꯟꯇꯤꯁꯠ ꯑꯃꯁꯨꯡ ꯔꯣꯕꯣꯇꯤꯛꯁ ꯑꯦꯛꯁꯄꯔꯠ Joshua Bongard ꯅ ꯐꯣꯡꯗꯣꯛꯄꯒꯤ ꯃꯇꯨꯡꯏꯟꯅ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯁꯤ ꯇꯣꯞ-ꯇꯣꯞꯂꯕ ꯑꯍꯤꯡꯕ ꯃꯦꯁꯤꯟꯁꯤꯡꯅꯤ ꯑꯗꯨꯒ ꯃꯈꯣꯏꯁꯤ ꯇ꯭ꯔꯤꯗꯤꯁꯅꯜ ꯔꯣꯕꯣꯠ ꯅꯠꯇ꯭ꯔꯒ ꯁꯥ ꯑꯃꯒꯤ ꯃꯁꯛ ꯈꯪꯂꯕ ꯁ꯭ꯄꯦꯁꯤꯁ ꯑꯃ ꯅꯠꯇꯦ, ꯑꯗꯨꯕꯨ ꯑꯥꯔꯇꯤꯐꯦꯛꯠꯀꯤ ꯑꯅꯧꯕ ꯀꯥꯂꯨꯞ ꯑꯃ : ꯑꯍꯤꯡꯕ, ꯁꯦꯝꯗꯣꯛ-ꯁꯥꯗꯣꯛ ꯌꯥꯔꯤꯕ ꯑꯣꯔꯒꯥꯅꯤꯖꯝ ꯑꯃꯅꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ ꯖꯤꯕꯁꯤꯡꯁꯤ ꯌꯨ ꯚꯤ ꯑꯦꯝꯒꯤ ꯁꯨꯄꯔ ꯀꯝꯄ꯭ꯌꯨꯇꯔ ꯑꯃꯗ ꯗꯤꯖꯥꯏꯅ ꯇꯧꯈꯤ ꯑꯗꯨꯒ Tufts ꯎꯅꯤꯚꯦꯔꯁꯤꯇꯌꯒꯤ ꯕꯥꯏꯑꯣꯂꯣꯖꯤꯁꯠꯁꯤꯡꯅ ꯅꯧꯅ ꯁꯦꯝꯒꯠꯂꯒ ꯆꯥꯡ ꯌꯦꯡꯈꯤ꯫ ꯑꯁꯨꯝꯅ ꯁꯦꯝꯒꯠꯂꯛꯈꯤꯕ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯕꯨ ꯖꯦꯅꯔꯦꯔꯦꯁꯅ 1 ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡ ꯍꯥꯏꯅ ꯈꯪꯅꯈꯤ꯫ ꯃꯁꯤꯒꯤ ꯃꯈꯥ ꯇꯥꯔꯛꯄꯗ, ꯆꯠꯂꯤꯕ ꯆꯍꯤꯁꯤꯒꯤ ꯃꯥꯔꯆ ꯊꯥꯗ ꯊꯤꯖꯤꯟ ꯂꯨꯞ ꯑꯁꯤꯃꯛꯅ ꯁꯤꯡꯒꯜ ꯁꯦꯜꯁꯤꯡ (ꯁ꯭ꯇꯦꯝ ꯁꯦꯜꯁꯤꯡ) ꯗꯒꯤ ꯃꯔꯣꯝꯗꯣꯝ ꯁꯦꯝꯒꯠ-ꯁꯥꯒꯠꯆꯔꯛꯇꯨꯅ ꯑꯍꯤꯡꯕ ꯖꯤꯕ ꯑꯃꯒꯤ ꯁꯛꯇꯝ ꯂꯧꯔꯛꯄ ꯉꯝꯕ ꯖꯦꯅꯦꯔꯦꯁꯟ 2 ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡ ꯁꯦꯝꯒꯠꯈꯤ꯫ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯗꯨꯅ ꯆꯠꯄꯗ ꯇꯣꯡꯁꯥꯒꯤ ꯃꯊꯧ ꯇꯥꯔꯝꯗꯦ, ꯑꯗꯨꯒ ꯃꯈꯣꯏꯒꯤ ꯅꯤꯡꯁꯤꯡꯕꯒꯤ ꯁꯛꯇꯤ ꯂꯩ ꯍꯥꯏꯕꯁꯨ ꯈꯪꯕ ꯉꯝꯈꯤ꯫ ꯖꯦꯅꯦꯔꯦꯁꯟ ꯑꯁꯤꯒꯤ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯁꯤꯅ ꯖꯦꯅꯦꯔꯦꯁꯟ 1ꯒꯤ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯗꯒꯤ ꯍꯦꯟꯅ ꯊꯨꯅ ꯇꯣꯉꯥꯟ-ꯇꯣꯉꯥꯟꯕ ꯑꯀꯣꯏꯕꯒꯤ ꯐꯤꯚꯝꯁꯤꯡꯗ ꯆꯠꯄ ꯉꯝꯂꯝꯃꯤ, ꯑꯗꯨꯒ ꯃꯄꯨꯟꯁꯤ ꯁꯥꯡꯕꯁꯨ ꯍꯦꯜꯂꯝꯃꯤ꯫ ꯃꯈꯣꯏꯒꯤ ꯃꯁꯥꯗ ꯑꯁꯣꯛ-ꯑꯄꯟ ꯌꯥꯎꯔꯛꯄ ꯃꯇꯝꯗ ꯑꯁꯣꯛꯄꯗꯨꯕꯨ ꯃꯔꯣꯝꯗꯣꯝ ꯐꯍꯟꯖꯕꯁꯨ ꯉꯝꯂꯝꯃꯤ꯫ ꯊꯤꯖꯤꯟꯕꯒꯤ ꯆꯦꯔꯣꯜ ꯂꯑꯁꯤ “ꯁꯥꯏꯟꯁ ꯔꯣꯕꯣꯇꯤꯛꯁ” (ꯃꯥꯔꯆ 31, 2021) ꯇ ꯐꯣꯡꯗꯣꯛꯈꯤꯕꯅꯤ꯫
ꯊꯤꯖꯤꯟ ꯂꯨꯞ ꯑꯁꯤꯅ ꯖꯦꯅꯦꯔꯦꯁꯟ 3ꯒꯤ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡ ꯄꯨꯊꯣꯔꯛꯄꯒꯤ
ꯄꯥꯎꯗꯝ ꯑꯃꯁꯨ ‘ꯄ꯭ꯔꯣꯁꯤꯗꯤꯡꯁ ꯑꯣꯐ ꯅꯦꯁꯅꯜ ꯑꯦꯀꯥꯗꯦꯃꯤ ꯑꯣꯐ ꯁꯥꯏꯟꯁꯦꯁ’
(ꯅꯕꯦꯝꯕꯔ 29, 2021) ꯗ ꯐꯣꯡꯗꯣꯔꯛꯂꯤ꯫ ꯄꯥꯎꯗꯝ ꯑꯁꯒꯤ ꯃꯇꯨꯡꯏꯟꯅ,
ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯅ ꯑꯄꯤꯛꯄ ꯄꯨꯈꯝ (ꯗꯤꯁ) ꯇ ꯆꯠꯇꯨꯅ ꯁꯤꯡꯒꯜ ꯁ꯭ꯇꯦꯝ
ꯁꯦꯜꯁꯤꯡꯕꯨ ꯊꯤꯔꯛꯄ ꯑꯗꯨꯒ ꯃꯈꯣꯏ ꯃꯌꯥꯝ ꯄꯨꯁꯤꯟꯅꯔꯛꯄ, ꯑꯗꯨꯒ ꯃꯈꯣꯏꯅ
ꯑꯃꯨꯛ Pac-Man ꯃꯥꯟꯕ “mouth” ꯃꯅꯨꯡꯗꯤ ‘ꯕꯦꯕꯤ’ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡ
ꯄꯨꯟꯁꯤꯜꯂꯛꯄ, ꯑꯗꯨꯒ ꯅꯨꯃꯤꯠ 5ꯅꯤꯒꯤ ꯃꯇꯨꯡꯗ ꯁꯛ ꯃꯥꯟꯅꯕ ꯑꯃꯁꯨꯡ
ꯃꯈꯣꯏꯒꯨꯝꯅ ꯆꯠꯄ, ꯑꯅꯧꯕ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡ ꯑꯣꯏꯔꯛꯄ ꯊꯦꯡꯅꯔꯛꯂꯦ ꯍꯥꯏꯔꯤ꯫
ꯑꯅꯧꯕ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡ ꯑꯁꯤꯅ ꯆꯠꯊꯣꯔꯛꯇꯨꯅ ꯁꯦꯜꯁꯤꯡꯒ ꯊꯦꯡꯅꯔꯛꯏ
ꯑꯃꯁꯨꯡ ꯃꯈꯣꯏꯒ ꯃꯥꯅꯕ ꯀꯣꯄꯤꯁꯤꯡ ꯍꯟꯅ-ꯍꯟꯅ ꯁꯦꯝꯂꯛꯂꯝꯃꯤ꯫ ꯃꯇꯧ
ꯑꯁꯨꯝ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯅ ꯃꯔꯣꯝꯗꯣꯝ ꯃꯆꯥ ꯄꯣꯛꯆꯔꯛꯄ/ꯁꯦꯜꯐ ꯔꯦꯄ꯭ꯂꯤꯀꯦꯠ
ꯇꯧꯔꯛꯄꯗꯨ ꯊꯤꯖꯤꯟ-ꯂꯨꯞ ꯑꯁꯤꯅ ꯊꯦꯡꯅꯔꯛꯂꯝꯃꯤ꯫ ꯑꯅꯧꯕ ꯁꯦꯜꯁꯤꯡꯁꯤꯒꯤ ꯍꯉꯣꯏ ꯑꯃꯒꯤ ꯖꯤꯅꯣꯝ ꯂꯩ, ꯑꯗꯨꯕꯨ ꯇꯦꯗꯄꯣꯜꯁꯤꯡ ꯑꯣꯏꯔꯛꯄꯗꯤ ꯇꯣꯗꯦ, ꯃꯈꯣꯏꯅ ꯑꯉꯛꯄ ꯈꯔ ꯄꯥꯡꯊꯣꯛꯅꯕꯒꯤꯗꯃꯛ ꯃꯈꯣꯏꯒꯤ ꯀꯂꯦꯛꯇꯤꯚ ꯏꯟꯇꯂꯤꯖꯦꯟꯁ, ꯄ꯭ꯂꯥꯁꯤꯇꯤꯁꯤꯇꯤ ꯑꯃ ꯁꯤꯖꯤꯟꯅꯩ ꯍꯥꯏꯅ Tufts ꯎꯅꯤꯚꯦꯔꯁꯤꯇꯌ ꯒꯤꯑꯂꯂꯦꯅ ꯙꯤꯁꯆꯣꯚꯦꯔꯌ Center ꯒꯤ ꯗꯥꯏꯔꯦꯛꯇꯔ Michael Levin ꯅ ꯐꯣꯡꯗꯣꯛꯂꯤ꯫
ꯁꯦꯜ 3000 ꯃꯨꯛꯅ ꯁꯦꯝꯕ ꯖꯦꯅꯣꯕꯣꯠ ‘ꯄꯦꯔꯦꯟꯠ’ ꯅ ꯃꯔꯣꯝꯗꯣꯝ ꯁ꯭ꯐꯤꯌꯔ ꯑꯃ ꯁꯦꯖꯔꯛꯏ꯫ ꯃꯈꯣꯏꯅ ꯃꯆꯥꯁꯤꯡ ꯄꯣꯛꯏ ꯑꯗꯨꯕꯨ ꯃꯗꯨꯒꯤ ꯃꯇꯨꯡꯗꯒꯤ ꯁꯤꯁꯇꯝꯗꯨ ꯁꯤꯈꯤ꯫ ꯁꯤꯁꯝ ꯑꯁꯤꯕꯨ ꯑꯗꯨꯝ ꯃꯆꯥ ꯄꯣꯛꯍꯟꯗꯨꯅ ꯂꯩꯅꯕ ꯍꯣꯠꯅꯕ ꯍꯥꯏꯕꯁꯤ ꯑꯔꯨꯕ ꯑꯃꯅꯤ ꯍꯥꯏꯅ Tufts ꯑꯂꯂꯦꯅ Center ꯑꯃꯁꯨꯡ ꯊꯥꯔꯚꯥꯔꯗ ꯎꯅꯤꯚꯦꯔꯁꯤꯇꯌ ꯒꯤ Wyss ꯏꯅꯁꯇꯤꯇꯨꯇꯦ ꯐꯣꯔ Biologically ꯏꯅꯁꯄꯤꯔꯦꯗ Engineering ꯒꯤ ꯄꯣꯁꯠ-ꯗꯣꯛ ꯔꯤꯁꯔꯁꯈꯥꯃ Kriegman ꯅ ꯍꯥꯏꯔꯤ꯫ ꯑꯗꯨꯕꯨ ꯌꯨ ꯚꯤ ꯑꯦꯝꯒꯤ Vermont ꯑꯗꯚꯥꯅꯆꯦꯗ Computing Core ꯗ ꯂꯩꯔꯤꯕ Deep Green ꯁꯨꯄꯦꯔꯆꯣꯃꯄꯨꯇꯦꯔ ꯆꯂꯨꯁꯇꯦꯔ ꯗ ꯁꯤꯖꯤꯟꯅꯔꯤꯕ ꯑꯥꯔꯇꯤꯐꯤꯁꯤꯑꯜ ꯏꯟꯇꯂꯤꯖꯦꯟꯁ (ꯑꯦ ꯑꯦꯜ) ꯄ꯭ꯔꯣꯒ꯭ꯔꯥꯝ ꯑꯃꯒ ꯂꯣꯏꯅꯅ, ꯑꯔꯇꯤꯐꯤꯁꯤꯑꯜ ꯑꯜꯒꯣꯔꯤꯗꯝ ꯑꯃꯅ ꯁꯦꯜꯁꯤꯡꯗꯨꯅ ꯆꯠꯄ-ꯈꯣꯠꯄꯗ ꯌꯨꯝꯐꯝ ꯑꯣꯏꯕ ‘ꯀꯤꯅꯦꯃꯦꯇꯤꯛ’ ꯔꯦꯄ꯭ꯂꯤꯀꯦꯁꯟ ꯍꯦꯟꯅ ꯏꯐꯦꯛꯇꯤꯚ ꯑꯣꯏꯕꯁꯤꯡ ꯐꯪꯍꯟꯅꯕꯒꯤꯗꯃꯛ - ꯇ꯭ꯔꯥꯏꯑꯦꯡꯒꯜ, ꯁ꯭ꯀꯋꯥꯔ, ꯄꯤꯔꯥꯃꯤꯗ, ꯁ꯭ꯇꯥꯔꯐꯤꯁꯁꯤꯡꯒꯤ ꯍꯛꯆꯥꯡꯒꯤ ꯇꯣꯉꯥꯟ ꯇꯣꯉꯥꯟꯕ ꯃꯑꯣꯡ ꯃꯇꯧ (ꯕꯣꯗꯤ ꯁꯦꯞ) ꯕꯤꯂꯤꯌꯟ ꯀꯌꯥꯕꯨ ꯁꯤꯃꯨꯂꯦꯁꯟꯗ ꯆꯥꯡ
ꯌꯦꯡꯕ ꯉꯝꯈꯤ꯫

Kriegman ꯅ ꯐꯣꯡꯗꯣꯛꯄꯒꯤ ꯃꯇꯨꯡꯏꯟꯅ, ꯏꯍꯥꯟ ꯍꯥꯟꯅ ꯁꯦꯝꯒꯠꯈꯤꯕ ꯄꯦꯔꯦꯟꯠꯁꯤꯡꯒꯤ ꯁꯦꯞ ꯑꯗꯨꯕꯨ ꯆꯨꯅꯕ ꯃꯑꯣꯡꯗ ꯃꯇꯧ ꯀꯔꯝꯅ ꯁꯦꯝꯗꯣꯛꯀꯗꯒꯦ ꯍꯥꯏꯕꯒꯤ ꯃꯇꯥꯡꯗ ꯌꯨ ꯚꯤ ꯑꯦꯝꯒꯤ ꯁꯨꯄꯔꯀꯝꯄ꯭ꯌꯨꯇꯔꯁ ꯁꯤꯖꯤꯟꯅꯈꯤ, ꯑꯗꯨꯒ
ꯑꯦ ꯑꯦꯜ ꯑꯗꯨꯅ Pac-Man ꯃꯥꯟꯕ ꯃꯑꯣꯡ ꯑꯃ ꯌꯥꯎꯅ, ꯑꯉꯛꯄ ꯗꯤꯖꯥꯏꯟ ꯈꯔ ꯄꯨꯊꯣꯔꯛꯈꯤ꯫ ꯃꯁꯤ ꯌꯥꯝꯅꯃꯛ ꯊꯥꯖꯔꯝꯗꯕ ꯑꯃ ꯑꯣꯏꯈꯤ, ꯑꯗꯨꯒ ꯌꯥꯝꯅ ꯆꯝꯅꯁꯨ ꯎꯔꯝꯃꯤ ꯍꯥꯏꯅ ꯃꯍꯥꯛꯅ ꯍꯥꯏꯔꯤ꯫ ꯑꯁꯨꯝꯅ ꯐꯪꯂꯛꯂꯤꯕ ꯃꯍꯩ ꯑꯁꯤꯕꯨ ꯖꯦꯅꯣꯕꯣꯠ ꯄꯦꯔꯦꯟꯠꯁꯤꯡꯕꯨ ꯁꯦꯝꯒꯠꯂꯛꯈꯤꯕ, Tufts ꯎꯅꯤꯚꯦꯔꯁꯤꯇꯌ ꯒꯤ ꯁꯤꯅꯤꯌꯔ ꯁꯥꯏꯟꯇꯤꯁꯠ Douglas Blackiston ꯗ ꯊꯥꯔꯝꯃꯤ꯫ ꯃꯇꯧ ꯑꯁꯨꯝꯅ Douglas ꯅ Pac-Man ꯃꯥꯟꯕ ꯄꯦꯔꯦꯟꯠ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯕꯨ ꯈꯨꯠꯁꯦꯝꯒꯤ ꯄꯥꯝꯕꯩꯅ ꯁꯦꯝꯒꯠꯈꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ ꯄꯥꯔꯦꯟꯠꯁꯤꯡꯅ ꯃꯆꯥꯁꯤꯡ, ꯃꯁꯨꯁꯤꯡ, ꯃꯁꯨꯒꯤ ꯃꯆꯥꯁꯤꯡꯒꯤ ꯁꯨꯔꯣꯜꯁꯤꯡꯗ ꯃꯊꯪ-ꯃꯊꯪ ꯃꯆꯥ ꯄꯣꯛꯄ ꯉꯝꯂꯛꯈꯤ꯫ ꯃꯁꯤꯒꯤ ꯋꯥꯍꯟꯊꯣꯛꯇꯤ, ꯑꯆꯨꯝꯕ ꯗꯤꯖꯥꯏꯟ ꯑꯃꯅ ꯆꯥꯔꯣꯜ-ꯁꯨꯔꯣꯜ ꯃꯌꯥꯝ ꯑꯃ ꯄꯨꯊꯣꯛꯄ ꯉꯝꯃꯤ ꯍꯥꯏꯕꯅꯤ꯫
ꯑꯁꯤꯒꯨꯝꯕ ꯄꯥꯎꯈꯤ ꯇꯥꯕꯗ ꯀꯅꯥꯒꯨꯝꯕ ꯈꯔꯅ ꯅꯨꯡꯉꯥꯏꯔꯝꯒꯅꯤ꯫ ꯑꯇꯣꯞꯄ ꯈꯔꯅꯗꯤ ꯁꯦꯜꯐ-ꯔꯦꯄ꯭ꯂꯦꯀꯦꯇꯤꯡ ꯕꯥꯏꯑꯣꯇꯦꯛꯅꯣꯂꯣꯖꯤ ꯑꯃꯒꯤ ꯋꯥꯈꯜꯂꯣꯟꯗ ꯆꯤꯡꯅꯅ ꯌꯦꯡꯂꯛꯄ ꯌꯥꯏ ꯅꯠꯇ꯭ꯔꯒ ꯑꯀꯤꯕ ꯄꯣꯛꯄꯁꯨ ꯌꯥꯏ꯫ ꯑꯗꯨꯕꯨ ꯊꯤꯖꯤꯟ-ꯂꯨꯞ ꯑꯁꯤꯒꯤ ꯑꯣꯏꯅꯗꯤ, ꯃꯅꯨꯡ ꯍꯨꯟꯖꯤꯟꯅ ꯈꯪꯕ ꯍꯥꯏꯕꯁꯤꯅ ꯄꯥꯟꯗꯝꯅꯤ꯫ ꯃꯈꯣꯏꯅ ‘ꯔꯦꯄ꯭ꯂꯤꯀꯦꯁꯟ’ ꯍꯥꯏꯕ ꯒꯨꯅ ꯑꯁꯤꯕꯨ ꯈꯪꯅꯕꯒꯤ ꯍꯣꯠꯅꯈꯤ꯫ ꯉꯁꯤꯒꯤ ꯃꯥꯂꯦꯝ ꯑꯃꯁꯨꯡ ꯇꯦꯛꯅꯣꯂꯣꯖꯤꯁꯤꯡꯁꯤ ꯊꯨꯅ ꯍꯣꯡꯂꯛꯂꯤ, ꯑꯗꯨꯒ ꯑꯁꯤꯒꯨꯝꯕ ꯑꯍꯣꯡꯕꯁꯤ ꯃꯔꯨ ꯑꯣꯏ; ꯑꯗꯨꯅ ꯃꯈꯣꯏꯅ ꯃꯁꯤꯅ ꯃꯊꯧ ꯇꯧꯕꯒꯤ ꯃꯔꯝꯗ ꯅꯩꯅꯈꯤ ꯑꯃꯁꯨꯡ ꯈꯪꯂꯛꯈꯤ ꯍꯥꯏꯅ Bongard ꯅ ꯐꯣꯡꯗꯣꯛꯂꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ ꯃꯤꯂꯤꯃꯤꯇꯔꯒꯤ ꯆꯥꯡꯗ ꯆꯥꯎꯕ ꯑꯍꯤꯡꯕ ꯃꯦꯁꯤꯟꯁꯤꯡꯁꯤ ꯃꯥꯡꯍꯟꯈꯤꯕ ꯑꯃꯁꯨꯡ ꯃꯁꯤꯒꯤ ꯃꯔꯃꯗ ꯐꯦꯗꯔꯦꯜ, ꯁ꯭ꯇꯦꯠ ꯑꯃꯁꯨꯡ ꯏꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟꯁꯜ ꯏꯊꯤꯛꯁ
ꯑꯦꯛꯁꯄꯔꯠꯁꯤꯡꯅ ꯏꯔꯥꯏ ꯂꯥꯏꯅ ꯌꯦꯡꯁꯤꯟꯕ ꯌꯥꯏ꯫ ꯃꯇꯥꯡꯁꯤꯗ Bongard
ꯅ ꯍꯥꯏꯔꯤꯕꯗꯤ ꯍꯦꯟꯅ ꯈꯨꯗꯣꯡꯊꯤꯅꯤꯡꯉꯥꯏ ꯑꯣꯏꯔꯤꯕꯁꯤ ꯃꯊꯪꯗ ꯂꯥꯛꯀꯗꯕ
ꯄꯦꯟꯗꯃꯤꯛ; ꯄꯣꯂ꯭ꯌꯨꯁꯟꯅ ꯏꯀꯣꯁꯤꯁꯇꯝꯕꯨ ꯃꯥꯡꯍꯟꯕ ꯍꯦꯟꯒꯠꯂꯛꯂꯕꯤ;
ꯀ꯭ꯂꯥꯏꯃꯦꯠ ꯆꯦꯟꯖꯅ ꯀꯟꯅ ꯑꯀꯤꯕ ꯄꯣꯛꯍꯜꯂꯛꯂꯤꯕꯁꯤꯡꯁꯤꯅꯤ꯫ ꯃꯁꯤꯕꯨ
ꯂꯥꯛꯁꯤꯟꯕ, ꯑꯄꯥꯝꯕ ꯃꯑꯣꯡꯁ ꯁꯤꯖꯤꯟꯅꯕ, ꯃꯥꯡꯍꯟꯈꯤꯕ, ꯍꯦꯟꯅ ꯐꯒꯠꯍꯟꯅꯕꯒꯤ
ꯐꯤꯚꯝꯁꯤꯡꯗꯨ ꯈꯪꯅꯕꯒꯤ ꯄꯨꯛꯅꯤꯡꯒꯤ ꯑꯆꯦꯠꯄ ꯐꯤꯔꯦꯞ ꯃꯈꯣꯏꯒꯤ ꯂꯩꯖꯩ ꯍꯥꯏꯅ
ꯃꯍꯥꯛꯅ ꯃꯈꯥ ꯇꯥꯅ ꯐꯣꯡꯗꯣꯛꯂꯤ꯫
ꯀꯣꯚꯤꯗ ꯄꯦꯟꯃꯤꯛ ꯑꯃꯁꯨꯡ ꯚꯦꯛꯁꯤꯟ ꯄꯨꯊꯣꯛꯅꯕꯒꯤ ꯍꯣꯠꯅꯈꯤꯕꯁꯤꯡꯗꯨꯕꯨ
ꯅꯤꯡꯁꯤꯡꯂꯒ Bongard ꯅ ꯍꯥꯏ, “ꯁꯣꯂ꯭ꯌꯨꯁꯟꯁꯤꯡꯕꯨ ꯍꯦꯛ ꯉꯝꯕꯃꯈꯩ ꯊꯨꯅ
ꯄꯨꯊꯣꯛꯄ ꯍꯥꯏꯕꯁꯤꯅꯤ ꯇꯁꯦꯡꯅ ꯃꯔꯨ Aoiribsi꯫ ꯅꯦꯅꯣꯕꯣꯠꯁꯤꯡꯗꯒꯤ
ꯄꯥꯔꯥ ꯑꯃ ꯇꯝꯁꯤꯟꯍꯧꯔꯒ, ꯑꯩꯈꯣꯏꯅ ꯌꯥꯝꯅ ꯊꯨꯅ ꯑꯦ ꯑꯦꯜ ꯁꯤꯖꯤꯟꯅꯕ ꯉꯝꯕ
ꯇꯦꯛꯅꯣꯂꯣꯖꯤꯁꯤꯡ ꯁꯦꯝꯒꯠꯄ ꯉꯝꯂꯕꯗꯤ : ꯌꯥꯝꯅ ꯀꯥꯅꯕꯔꯕ, ꯑꯦꯛꯁ ꯑꯃꯁꯨꯡ ꯋꯥꯏꯕꯨꯅ ꯃꯊꯧ ꯇꯧꯍꯟꯕ ꯑꯗꯨꯒ ꯖꯦꯗꯄꯨꯅ ꯅꯝꯊꯗꯨꯅ ꯊꯝꯕ ꯕꯥꯏꯑꯣꯂꯣꯖꯤꯀꯜ ꯇꯨꯜ ꯑꯃ ꯄꯨꯊꯣꯛꯄꯒꯤ ꯃꯇꯧ ꯇꯥꯏ꯫ ꯍꯧꯖꯤꯛꯀꯤ ꯑꯣꯏꯅꯗꯤ ꯃꯁꯤ ꯃꯇꯝ ꯌꯥꯝꯅ ꯆꯪꯕ ꯍꯥꯏꯕꯗꯨ ꯑꯣꯏꯔꯤ꯫ ꯊꯤꯖꯤꯟ ꯂꯨꯞ ꯑꯁꯤꯅ ꯁꯃꯁ꯭ꯌꯥ ꯑꯃꯕꯨ ꯌꯥꯝꯅ ꯊꯨꯅ ꯈꯪꯗꯣꯛꯄꯒꯤ ꯂꯣꯏꯅꯅ ꯃꯗꯨꯒꯤ ꯁꯣꯂ꯭ꯌꯨꯁꯟꯁꯤꯡꯕꯨ ꯍꯦꯛ ꯉꯝꯂꯤꯕꯃꯈꯩ ꯊꯨꯅ ꯄꯨꯊꯣꯛꯄ ꯉꯝꯅꯕꯒꯤ ꯄꯥꯟꯗꯝ ꯊꯝꯂꯤ - ꯈꯨꯗꯝ ꯑꯣꯏꯅ, ꯌꯥꯝꯈ꯭ꯔꯕ ꯏꯁꯤꯡꯒꯤ ꯏꯔꯣꯟꯅꯨꯡꯗ ꯂꯩꯔꯤꯕ ꯃꯥꯏꯀ꯭ꯔꯣꯄ꯭ꯂꯥꯁꯇꯤꯛꯁꯤꯡꯕꯨ ꯆꯤꯡꯊꯣꯛꯈꯤꯅꯕꯒꯤꯗꯃꯛ ꯑꯍꯤꯡꯕ ꯃꯦꯁꯤꯟꯁꯤꯡ ꯁꯤꯖꯤꯟꯅꯕ ꯅꯠꯇ꯭ꯔꯒ ꯑꯅꯧꯕ ꯍꯤꯗꯥꯛ ꯂꯥꯡꯊꯛꯁꯤꯡ ꯑꯊꯨꯕ ꯃꯇꯝꯗ ꯁꯦꯝꯒꯠ-ꯁꯥꯒꯠꯇꯨꯅ ꯄꯨꯊꯣꯛꯄ꯫ ꯑꯩꯈꯣꯏꯅ ꯆꯦꯂꯦꯟꯖ/ꯁꯃꯁ꯭ꯌꯥꯁꯤꯡꯕꯨ ꯃꯥꯌꯣꯛꯅꯔꯛꯄꯒꯤ ꯆꯥꯡ ꯑꯗꯨꯒ ꯆꯞ ꯍꯦꯛ ꯃꯥꯟꯅꯕ ꯆꯥꯡꯗ ꯇꯦꯛꯅꯣꯂꯣꯖꯤꯒꯤ ꯁꯣꯂ꯭ꯌꯨꯁꯟꯁꯤꯡ ꯁꯦꯝꯒꯠꯄꯒꯤ ꯃꯊꯧ ꯇꯥꯏ ꯍꯥꯏꯅ ꯃꯍꯥꯛꯅ ꯃꯈꯥ ꯇꯥꯅ ꯐꯣꯡꯗꯣꯛꯂꯤ꯫
ꯊꯤꯖꯤꯟ ꯂꯨꯞ ꯑꯁꯤꯅ ꯊꯤꯖꯤꯟꯕꯒꯤ ꯊꯕꯛ ꯑꯁꯤꯅ ꯔꯤꯖꯦꯅꯦꯔꯦꯇꯤꯚ ꯃꯦꯗꯤꯁꯤꯟꯗ ꯌꯥꯝꯅ ꯈꯨꯃꯥꯡ ꯆꯥꯎꯁꯤꯟꯍꯜꯂꯛꯄ ꯉꯃꯒꯅꯤ ꯍꯥꯏꯅ ꯊꯥꯖꯕ ꯊꯝꯂꯤ꯫ ꯀꯔꯤꯒꯨꯝꯕ ꯃꯈꯣꯏꯅ ꯄꯥꯝꯂꯤꯕꯗꯨꯃꯛ ꯁꯦꯜꯁꯤꯡꯒꯤ ꯀꯥꯡꯂꯨꯞꯁꯤꯡꯗꯨꯗ ꯀꯔꯝꯅ ꯇꯧꯍꯟꯒꯗꯒꯦ ꯍꯥꯏꯅ ꯊꯧꯗꯥꯕꯒꯤ ꯃꯇꯥꯡꯁꯤ ꯈꯉꯂꯝꯂꯕꯗꯤ ꯃꯗꯨ ꯂꯦꯞꯅꯃꯛ ꯔꯤꯖꯦꯅꯦꯔꯦꯇꯤꯚ ꯃꯦꯗꯤꯁꯤꯟ ꯀꯧꯕ ꯌꯥꯏ
- ꯃꯗꯨꯃꯛ ꯇ꯭ꯔꯣꯃꯥꯇꯤꯛ ꯏꯟꯖ꯭ꯌꯨꯔꯤ, ꯕꯥꯔꯊ ꯗꯤꯐꯦꯛꯠꯁꯤꯡ, ꯀꯦꯟꯁꯔ ꯑꯃꯁꯨꯡ ꯑꯍꯜ ꯑꯣꯏꯁꯤꯜꯂꯛꯄꯒꯨꯝꯕ
ꯁꯃꯁ꯭ꯌꯥꯁꯤꯡꯒꯤ ꯁꯣꯂ꯭ꯌꯨꯁꯟꯁꯤꯡꯅꯤ ꯍꯥꯏꯅ ꯂꯦꯚꯤꯟꯅ ꯃꯈꯣꯏꯒꯤ ꯊꯤꯖꯤꯟꯕꯁꯤꯒꯤ ꯉꯥꯛꯂꯧ ꯄꯤꯔꯗꯨꯅ ꯍꯥꯏꯔꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ
ꯇꯣꯉꯥꯟ ꯇꯣꯉꯥꯟꯕ ꯁꯃꯁ꯭ꯌꯥꯁꯤꯡꯁꯤ ꯊꯣꯔꯛꯄꯒꯤ ꯃꯔꯝꯗꯤ ꯁꯦꯜꯁꯤꯡꯒꯤ ꯀꯔꯝ ꯀꯥꯡꯂꯨꯞꯄꯨ ꯃꯁꯛ ꯈꯪꯗꯣꯛꯂꯒ
ꯂꯥꯛꯁꯤꯟꯅꯕꯒꯤꯗꯃꯛ ꯑꯅꯧꯕ ꯄꯥꯝꯕꯩꯁꯤꯡ ꯄꯨꯊꯣꯛꯀꯗꯕꯒꯦ ꯍꯥꯏꯕꯁꯤ ꯈꯪꯕ ꯉꯝꯂꯛꯈꯤꯗꯦ꯫ ꯉꯁꯤꯗꯤ ꯖꯦꯅꯣꯕꯣꯠꯁꯤꯡꯁꯤ
ꯂꯝꯁꯤꯗ ꯑꯩꯈꯣꯏꯕꯨ ꯇꯝꯕꯤꯒꯗꯕ ꯑꯅꯧꯕ ꯄ꯭ꯂꯦꯠꯐꯣꯔꯝ ꯑꯃ ꯑꯣꯏꯔꯒꯅꯤ꯫=

ꯃꯥꯂꯦꯝꯒꯤ ꯑꯍꯥꯟꯕ ꯑꯍꯤꯡꯕ, ꯃꯆꯥ ꯄꯣꯛꯄ ꯉꯝꯕ ꯔꯣꯕꯣꯠ : ꯖꯦꯅꯣꯕꯣꯠ
ꯁꯥꯏꯟꯁꯀꯤ ꯈꯣꯡꯆꯠ
ꯀꯨꯟꯖꯣ ꯅꯥꯎꯔꯦꯝ
ꯏꯟꯗꯤꯌꯥꯒꯤ ꯃꯅꯨꯡꯗ ꯂꯩꯔꯤꯕ ꯑꯄꯤꯛꯄ ꯁ꯭ꯇꯦꯠꯁꯤꯡꯒꯤ ꯃꯅꯨꯡ ꯆꯜꯂꯤꯕ ꯏꯔꯝꯗꯝ ꯃꯅꯤꯄꯨꯔ ꯑꯁꯤꯗꯁꯨ
ꯃꯄꯥꯟꯊꯣꯡꯗ ꯌꯦꯡꯕꯗꯗꯤ ꯑꯋꯥꯠ-ꯑꯄꯥ ꯂꯩꯇꯕ ꯃꯐꯝ ꯑꯃꯅꯤ ꯍꯥꯏꯅ ꯎꯕꯤꯔꯝꯕ ꯌꯥꯏ ꯑꯗꯨꯕꯨ ꯃꯅꯨꯡ ꯍꯟꯖꯤꯟꯅ
ꯌꯦꯡꯂꯨꯔꯒꯗꯤ ꯑꯋꯥꯠꯄꯇꯅ ꯊꯜꯂꯕ ꯂꯝꯗꯝ ꯑꯃꯅꯤ ꯍꯥꯏꯕꯗ ꯍꯥꯏꯃꯟꯕ ꯊꯣꯛꯂꯣꯏ꯫ ꯃꯥꯏꯀꯩ ꯀꯌꯥꯗ ꯌꯦꯡꯂꯨꯕꯗ
ꯆꯥꯎꯈꯠꯄ ꯃꯥꯟꯖꯔꯕꯁꯨ ꯃꯄꯨꯝ ꯑꯣꯏꯅ ꯌꯦꯡꯂꯨꯔꯒꯗꯤ ꯂꯥꯏꯔꯕ ꯑꯃꯗꯤ ꯁꯨꯐꯝ ꯅꯣꯝꯐꯝ ꯂꯩꯇꯕ ꯃꯤꯑꯣꯏꯅ ꯃꯁꯤꯡ ꯌꯥꯝꯅ ꯂꯩꯕ ꯂꯝꯗꯝ ꯑꯃꯅꯤ ꯍꯥꯏꯖꯅꯤꯡꯏ꯫ ꯁꯦꯜ ꯊꯨꯝꯒꯤ ꯑꯋꯥꯕ ꯄꯣꯠꯂꯨꯝ ꯄꯨꯔꯤꯕ ꯃꯤꯑꯣꯏ ꯀꯌꯥꯅ ꯁꯔꯨꯛ ꯌꯥꯝꯅ ꯂꯩꯔꯤꯕ ꯂꯝꯗꯝ ꯑꯁꯤꯒꯤ ꯁꯦꯟꯃꯤꯠꯂꯣꯟꯁꯨ ꯑꯗꯨꯛꯀꯤ ꯃꯇꯤꯛ ꯐꯤꯚꯝ ꯁꯣꯛꯇꯨꯅ ꯂꯩꯔꯤ꯫ ꯃꯔꯝ ꯑꯗꯨꯅ ꯂꯝꯗꯝ ꯑꯁꯤꯒꯤ ꯁꯦꯟꯃꯤꯠꯂꯣꯟ ꯍꯦꯟꯒꯠꯄ ꯑꯃꯗꯤ ꯃꯄꯨꯝ ꯈꯨꯗꯤꯡꯃꯛꯀꯤ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤ ꯐꯒꯠꯍꯟꯅꯕ ꯄꯣꯔꯝ ꯀꯌꯥ ꯌꯥꯠꯄꯒꯤ ꯇꯉꯥꯏꯐꯗꯕ ꯂꯩ꯫ ꯍꯤꯔꯝꯁꯤꯒꯤ ꯃꯇꯥꯡꯗ ꯑꯏꯕꯅ ꯄꯥꯝꯖꯔꯤꯕ ꯋꯥꯐꯝꯗꯤ ꯑꯍꯥꯟꯕꯗ ꯁ꯭ꯇꯦꯠ ꯑꯁꯤꯒ ꯁꯦꯟꯃꯤꯠꯂꯣꯟ ꯐꯒꯠꯍꯟꯅꯕꯒꯤꯗꯃꯛ ꯇꯉꯥꯏꯐꯗꯅ ꯊꯕꯛ ꯊꯧꯔꯝ ꯀꯌꯥ ꯄꯥꯏꯈꯠꯄ ꯃꯊꯧ ꯇꯥꯏ꯫ ꯃꯄꯥꯟ ꯂꯝꯒꯤ ꯂꯝꯀꯣꯏꯕ ꯃꯁꯤꯡ ꯍꯦꯟꯒꯠꯅꯕꯒꯤꯗꯃꯛ ꯃꯍꯧꯁꯥꯒꯤ ꯊꯣꯏꯗꯣꯛ ꯍꯦꯟꯗꯣꯛꯅ ꯅꯤꯡꯊꯤꯖꯔꯕ ꯃꯐꯝꯁꯤꯡꯗ ꯑꯍꯦꯟꯕ ꯃꯤꯠꯌꯦꯡ ꯆꯪꯗꯨꯅ ꯁꯦꯝꯒꯠ ꯁꯥꯒꯠꯄ ꯇꯉꯥꯏꯐꯗꯦ꯫ ꯁꯦꯝꯒꯠꯂꯕ ꯃꯐꯝꯁꯤꯡ ꯑꯗꯨꯗ ꯃꯇꯤꯛ ꯆꯥꯕ ꯄꯣꯠꯊꯥꯐꯝ ꯑꯃꯗꯤ ꯌꯥꯔꯦꯛꯐꯝ ꯁꯦꯝ ꯁꯥꯕꯤꯕ, ꯂꯝꯀꯣꯏꯕꯁꯤꯡꯅ ꯑꯀꯤ-ꯑꯈꯪ ꯂꯩꯇꯅꯕꯒꯤꯗꯃꯛ ꯃꯇꯤꯛ ꯆꯥꯕ ꯁꯤꯀ꯭ꯌꯨꯔꯤꯇꯤ ꯊꯝꯕꯅꯆꯤꯡꯕ ꯍꯣꯠꯅꯕ ꯌꯥꯝꯅ ꯀꯥꯟꯅꯒꯅꯤ ꯈꯜꯂꯤ꯫
ꯃꯊꯪꯗ ꯂꯝꯗꯝ ꯑꯁꯤꯒꯤ ꯒ꯭ꯔꯤꯟ ꯔꯦꯚꯂ꯭ꯌꯨꯁꯟꯒꯤ ꯄꯥꯟꯗꯝꯗ ꯑꯍꯥꯡꯕ ꯃꯐꯝ ꯈꯨꯗꯤꯡ ꯆꯥꯟꯅ ꯆꯨꯅꯕ ꯄꯥꯝꯕꯤ, ꯃꯅꯥ-ꯃꯁꯤꯡ ꯑꯃꯗꯤ ꯍꯩ-ꯔꯥ ꯊꯥꯗꯨꯅ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤꯒꯤ ꯀꯌꯥꯠ ꯀꯥꯌꯥ ꯀꯌꯥ ꯌꯥꯠꯄꯗ ꯀꯥꯅꯒꯅꯤ꯫ ꯃꯐꯝ ꯆꯥꯕꯗ ꯃꯇꯝ-ꯃꯇꯝꯒꯤ ꯃꯅꯥ-ꯃꯁꯤꯡꯅꯆꯤꯡꯕ ꯂꯤꯗꯨꯅ ꯊꯝꯕ ꯌꯥꯅꯅꯕꯒꯤꯗꯃꯛ ꯀꯣꯜꯗ ꯁ꯭ꯇꯣꯔꯦꯖ ꯊꯝꯕ ꯇꯥꯏ꯫ ꯏꯔꯝꯗꯝꯒ ꯆꯥꯟꯅꯕ ꯑꯃꯗꯤ ꯆꯨꯅꯕ ꯄꯣꯠꯊꯣꯛ ꯀꯌꯥ ꯄꯨꯊꯣꯛꯅꯕꯒꯤꯗꯃꯛ ꯃꯈꯜ ꯃꯈꯥ ꯀꯌꯥꯒꯤ ꯏꯟꯗꯁꯇ꯭ꯔꯤ ꯍꯥꯡꯗꯨꯅ ꯁꯤꯟꯃꯤ ꯀꯌꯥꯕꯨ ꯊꯕꯛ ꯄꯤꯕꯗ ꯅꯠꯇꯅ ꯄꯣꯠꯊꯣꯛ ꯀꯌꯥ ꯄꯨꯊꯣꯛꯂꯕꯗꯤ ꯂꯩꯕꯥꯛꯀꯤ ꯁꯦꯟꯃꯤꯠꯂꯣꯟ
ꯐꯒꯠꯍꯟꯕꯗ ꯃꯇꯦꯡ ꯌꯥꯝꯅ ꯄꯥꯡꯒꯅꯤ꯫ ꯂꯝꯗꯝꯁꯤꯗ ꯃꯃꯥꯡꯉꯩꯗꯒꯤ ꯂꯩꯔꯛꯂꯕ ꯉꯥ ꯃꯈꯜꯁꯤꯡ ꯌꯣꯛꯄꯒꯤ
ꯊꯕꯛ ꯄꯥꯏꯈꯠꯄ, ꯌꯦꯟ-ꯉꯥꯅꯨ ꯑꯃꯗꯤ ꯃꯈꯜ ꯀꯌꯥꯒꯤ ꯁꯥ-ꯁꯟꯅꯆꯤꯡꯕ ꯐꯥꯔꯝ ꯇꯧꯗꯨꯅ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤ ꯍꯦꯟꯒꯠꯍꯟꯅꯕ ꯍꯣꯠꯅꯕ ꯇꯉꯥꯏꯐꯗꯦ꯫

ꯏꯔꯝꯗꯝꯗ ꯁꯥꯖꯕ ꯄꯣꯠꯂꯝꯁꯤꯡ ꯌꯣꯛꯈꯠꯅꯕꯒꯤꯗꯃꯛ ꯃꯄꯥꯟ ꯂꯝꯗꯒꯤ ꯄꯨꯁꯤꯜꯂꯛꯄ ꯄꯣꯠꯂꯝꯁꯤꯡ ꯌꯥꯔꯤꯕꯃꯈꯩ ꯁꯤꯖꯤꯟꯅꯕ ꯂꯦꯞꯄꯤꯕ ꯃꯇꯝ ꯌꯧꯔꯦ꯫ ꯃꯁꯤꯅ ꯏꯔꯝꯗꯝꯗ ꯁꯥꯖꯕ ꯄꯣꯠꯂꯝ ꯀꯌꯥꯕꯨ ꯁꯤꯖꯤꯟꯅꯕ ꯑꯃꯗꯤ ꯄꯣꯠꯂꯝꯁꯤꯡ ꯑꯗꯨꯕꯨ ꯁꯥꯖꯔꯤꯕ ꯃꯤꯑꯣꯏ ꯀꯌꯥꯕꯨꯁꯨ ꯌꯣꯛꯈꯠꯄ ꯑꯃ ꯆꯪꯏ꯫ ꯃꯁꯤꯅ ꯁ꯭ꯇꯦꯠꯁꯤꯒꯤ ꯁꯦꯟꯃꯤꯠꯂꯣꯟ ꯐꯒꯠꯍꯟꯕꯗ ꯑꯆꯧꯕ ꯃꯇꯦꯡ ꯑꯃ ꯑꯣꯏꯒꯅꯤ ꯈꯟꯖꯩ꯫ ꯍꯧꯖꯤꯛ ꯁꯦꯜ-ꯊꯨꯝꯒꯤ ꯑꯋꯥꯕ ꯄꯣꯠꯂꯨꯝ ꯀꯌꯥ ꯃꯥꯌꯣꯛꯅꯔꯤꯕ ꯃꯤꯄꯨꯝ ꯈꯨꯗꯤꯡꯅ ꯑꯋꯥꯕ ꯑꯁꯤꯗꯒꯤ ꯍꯟꯊꯍꯟꯅꯕ ꯑꯃꯗꯤ ꯅꯥꯟꯊꯣꯛꯅꯕ ꯑꯃꯠꯇ ꯉꯥꯏꯔꯕ ꯂꯝꯕꯤꯗꯤ ꯆꯥꯗꯤꯡ ꯍꯟꯊꯍꯟꯕ ꯑꯃꯗꯤ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤ ꯍꯦꯟꯒꯠꯍꯟꯕ ꯍꯥꯏꯕꯁꯤꯅꯤ꯫ ꯆꯥꯗꯤꯡ ꯍꯟꯊꯍꯟꯅꯕꯒꯤꯗꯃꯛ ꯊꯧꯗꯣꯛ ꯋꯥꯊꯣꯛ ꯑꯃꯗꯤ ꯂꯥꯏꯅꯤꯡꯒ ꯃꯔꯤ ꯂꯩꯅꯕ ꯊꯕꯛ ꯊꯧꯔꯝ ꯀꯌꯥ ꯑꯁꯤ ꯄꯤꯛꯁꯤꯟꯕ ꯃꯊꯧ ꯇꯥꯏ꯫
ꯃꯤꯄꯨꯝ ꯀꯌꯥꯅ ꯆꯥꯗꯤꯡ ꯌꯥꯝꯅ ꯇꯧꯅꯔꯤꯕ ꯑꯅꯥ-ꯂꯥꯌꯦꯡꯕ ꯑꯁꯤꯗꯒꯤ ꯀꯣꯛꯅꯕꯒꯤꯗꯃꯛ ꯆꯥꯡ ꯅꯥꯏꯅ ꯁꯥꯖꯦꯜ ꯇꯧꯕ, ꯃꯆꯤ ꯑꯣꯏꯕ ꯆꯤꯟꯖꯥꯛ ꯃꯇꯤꯛ ꯆꯥꯅ ꯆꯥꯕ ꯑꯃꯗꯤ ꯃꯈꯜ ꯃꯈꯥ ꯀꯌꯥꯒꯤ ꯃꯌꯥꯏ ꯀꯥꯕ ꯆꯤꯟꯖꯥꯛꯇꯒꯤ ꯂꯥꯞꯊꯣꯛꯄ ꯇꯥꯏ꯫ ꯂꯣꯏꯅꯅ ꯑꯀꯦ-ꯑꯃꯧꯗ ꯁꯦꯜ ꯌꯥꯝꯅ ꯆꯠꯍꯟꯕꯤꯒꯅꯨ꯫ ꯃꯗꯨꯒꯤ ꯃꯍꯨꯠꯇ ꯑꯋꯥꯡꯕ ꯋꯥꯈꯜ ꯈꯟꯗꯨꯅ ꯆꯝꯅ ꯍꯤꯡꯕ ꯇꯝꯕ ꯇꯥꯏ꯫ ꯌꯨꯝꯊꯣꯡ ꯈꯨꯗꯤꯡꯒꯤ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤ ꯍꯦꯟꯒꯠꯍꯟꯅꯕꯒꯤꯗꯃꯛ ꯍꯣꯝ ꯕꯦꯗ ꯏꯟꯗꯁꯇ꯭ꯔꯤ ꯀꯌꯥ ꯂꯤꯡꯈꯠꯇꯨꯅ ꯑꯉꯝ ꯑꯉꯝꯕ ꯊꯥꯛꯇ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤ ꯊꯤꯕ ꯇꯥꯏ꯫ ꯊꯕꯛ ꯁꯨꯕꯒꯤ ꯍꯩꯅꯕꯤ ꯁꯦꯝꯕ ꯑꯃꯗꯤ ꯃꯇꯝ ꯃꯥꯡꯍꯟꯗꯕꯅ ꯃꯤꯄꯥꯟ ꯇꯥꯡꯗꯅ ꯏꯪꯅ ꯆꯤꯛꯅ ꯍꯤꯡꯅꯅꯕꯒꯤ ꯑꯃꯠꯇ ꯉꯥꯏꯔꯕ ꯂꯝꯕꯤꯅꯤ꯫ ꯂꯣꯟ ꯁꯤꯡꯕꯒꯤ ꯍꯩꯅꯕꯤ ꯊꯝꯂꯕꯗꯤ ꯕꯦꯡꯛꯅ ꯃꯇꯝ ꯃꯇꯝꯒꯤ ꯂꯣꯟ ꯁꯣꯏꯗꯅ ꯄꯤꯕꯤꯗꯨꯅ ꯍꯦꯟꯅ ꯋꯥꯡꯕ ꯊꯕꯛ ꯊꯧꯔꯝ ꯀꯌꯥ ꯄꯥꯏꯈꯠꯄꯗ ꯑꯆꯧꯕ ꯃꯇꯦꯡ ꯑꯣꯏꯒꯅꯤ꯫ ꯃꯔꯝ ꯑꯗꯨꯅ ꯑꯩꯈꯣꯏ ꯄꯨꯝꯅꯃꯛꯅ ꯏꯁꯥꯅ ꯏꯁꯥꯕꯨ ꯊꯕꯛ ꯄꯤꯁꯤ ꯑꯃꯗꯤ ꯏꯁꯥ ꯏꯁꯥꯒꯤ ꯁꯦꯟꯊꯣꯛ ꯂꯝꯕꯤ ꯍꯦꯟꯒꯠꯍꯟꯁꯤ꯫ ꯃꯗꯨꯇꯅ ꯃꯤꯊꯣꯏ ꯃꯤꯍꯦꯟꯕ ꯂꯝꯗꯝ ꯑꯃ ꯑꯣꯏꯍꯟꯕ ꯉꯝꯒꯅꯤ꯫ ꯂꯣꯏꯅꯅ ꯄꯥꯟꯗꯝ ꯑꯁꯤꯐꯪꯅꯅꯕꯒꯤꯗꯃꯛ ꯑꯩꯈꯣꯏ ꯄꯨꯟꯅ ꯊꯧꯗꯥ ꯂꯧꯃꯤꯟꯅꯔꯁꯤ꯫ =

ꯆꯠꯅꯕꯤꯒꯤ ꯃꯔꯨꯝꯗ
ꯏꯀꯥꯈꯨꯝꯅꯖꯔꯤꯕ ꯑꯦꯗꯤꯇꯔ,
ꯇꯥꯏꯕꯪꯄꯥꯟꯁꯤꯗ ꯑꯩꯈꯣꯏ ꯃꯤꯑꯣꯏꯕꯅ ꯃꯤꯊꯣꯏ ꯃꯤꯍꯦꯟꯅ ꯍꯤꯡꯕ ꯉꯝꯅꯕ ꯀꯟꯅ ꯁꯨ-ꯅꯣꯝꯗꯨꯅ ꯍꯣꯠꯅꯔꯤꯕ ꯉꯥꯛꯇꯅꯤ꯫ ꯑꯗꯨꯕꯨ ꯋꯥꯅ ꯅꯣꯝꯗꯨ ꯇꯥꯜꯂꯤꯕ ꯁꯦꯜ ꯑꯔꯦꯝꯕꯗ ꯀꯥꯅꯗꯕꯗ ꯃꯥꯡꯍꯜꯂꯤ꯫ ꯁꯦꯟꯖꯥꯎ ꯄꯥꯏꯕ ꯑꯉꯝ ꯑꯊꯧꯁꯤꯡꯅ ꯇꯧꯕ ꯃꯇꯧ ꯂꯥꯏꯔꯕ ꯑꯩꯅ ꯃꯇꯨꯡ ꯏꯜꯂꯨꯕꯒꯤ ꯀꯔꯤꯁꯨ ꯀꯥꯅꯕ ꯐꯪꯂꯣꯏ꯫ ꯋꯥꯅ ꯁꯨ-ꯅꯣꯝꯗꯨꯅ ꯇꯥꯜꯂꯨꯕ ꯁꯦꯜ ꯑꯔꯦꯝꯕꯗ ꯃꯥꯡꯍꯟꯕꯒꯤ ꯃꯍꯨꯠꯇ ꯅꯥꯗ-ꯌꯦꯛꯇꯅꯕ ꯑꯐꯕ ꯃꯆꯤ ꯑꯣꯏꯕ ꯆꯤꯟꯖꯥꯛ ꯂꯩꯗꯨꯅ ꯆꯥꯕꯅ ꯍꯦꯟꯅ ꯀꯥꯅꯒꯅꯤ꯫ ꯑꯍꯜ ꯑꯣꯏꯔꯕ ꯑꯩꯈꯣꯏꯅ ꯀꯔꯤꯒꯤ ꯏꯀꯥꯏꯒꯗꯧꯔꯤꯕꯅꯣ꯫ ꯌꯨꯝꯒꯤ ꯐꯤꯚꯝ ꯌꯦꯡꯕ ꯇꯥꯕꯅꯤ꯫
ꯃꯇꯝꯒꯤ ꯆꯠꯅꯕꯤ ꯅꯣꯡ-ꯅꯣꯡꯃꯒꯤ ꯑꯁꯨꯝ ꯑꯁꯨꯝ ꯍꯦꯟꯒꯠꯂꯛꯂꯤ, ꯆꯥꯎꯈꯠꯄ ꯍꯦꯟꯒꯠꯂꯛꯄ, ꯂꯥꯏꯔꯤꯛ ꯂꯥꯏꯁꯨ ꯍꯩꯕ ꯍꯦꯟꯒꯠꯂꯛꯄꯒꯤ ꯃꯇꯨꯡꯏꯟꯅ ꯑꯍꯣꯡꯕꯁꯨ ꯂꯥꯛꯄ ꯇꯥꯕꯅꯤ꯫ ꯊꯧꯗꯣꯛ ꯋꯥꯊꯣꯛꯁꯨ ꯇꯣꯏꯕ ꯇꯥꯕꯅꯤ꯫ ꯀꯅꯥꯒꯨꯝꯕ ꯃꯤꯁꯛ ꯅꯥꯏꯕ ꯃꯤꯑꯣꯏꯁꯤꯡꯒꯤꯗꯤ ꯅꯣꯡꯃꯗ ꯀꯔꯝꯃ ꯑꯍꯨꯝ/ꯃꯔꯤꯗꯒꯤ ꯇꯥꯗꯅ ꯆꯠꯂꯤ꯫ ꯄꯣꯠꯌꯦꯡꯒ ꯂꯣꯏꯅꯅ ꯄꯥꯂꯥꯗ ꯊꯥꯅꯕ ꯁꯦꯜ, ꯚꯥꯕꯣꯛ ꯃꯌꯥꯏ ꯇꯥꯕ ꯀꯟꯅ ꯆꯠꯅꯈꯠꯂꯛꯂꯤ꯫ ꯃꯃꯥꯡꯉꯩꯗꯗꯤ ꯍꯥꯏꯔꯤꯕꯁꯤꯡꯁꯤ ꯆꯠꯅꯔꯝꯗꯦ ꯑꯗꯨꯕꯨ ꯉꯁꯤꯒꯤ ꯈꯨꯟꯅꯥꯏꯁꯤꯗꯗꯤ ꯄꯨꯝꯑꯣꯟ ꯑꯣꯟꯅꯔꯦ꯫ ꯀꯅꯥꯒꯨꯝꯕ ꯂꯩꯕꯥꯛꯀꯤ ꯐꯝꯅꯥꯏꯕ ꯅꯠꯇ꯭ꯔꯒ ꯁꯦꯟꯖꯥꯎ ꯄꯥꯏꯕ ꯃꯤꯑꯣꯏꯁꯤꯡꯒꯤ ꯗꯦꯕ ꯀꯔꯝꯃꯗ ꯁꯦꯜ ꯊꯥꯕꯒꯤ ꯀ꯭ꯌꯨ ꯂꯦꯞꯄ, ꯇ꯭ꯔꯥꯐꯤꯛ ꯖꯥꯝ ꯑꯣꯏꯕ ꯁꯣꯏꯗꯅ ꯎꯕ ꯐꯪꯕꯤꯒꯅꯤ꯫ ꯂꯩꯀꯥꯏꯒꯤ ꯑꯍꯜ ꯑꯣꯏꯔꯕ ꯑꯣꯏꯔꯕꯁꯤꯡ ꯊꯋꯥꯏ ꯌꯥꯎꯕ ꯍꯦꯟꯒꯠꯂꯛꯂꯤ꯫ ꯚꯥꯕꯛ ꯃꯃꯥꯡꯗ
ꯐꯝꯍꯧꯅꯕ ꯍꯥꯏꯗꯨꯅ ꯋꯥꯅ ꯅꯥꯝ ꯁꯣꯟꯗꯨꯅ ꯂꯥꯛꯂꯤꯕ ꯄꯥꯂꯥꯒ ꯆꯞ ꯃꯥꯟꯅꯅ ꯐꯪꯕꯒꯤ ꯆꯠꯅ-ꯀꯥꯡꯂꯣꯟ ꯀꯟꯅ ꯆꯠꯅꯈꯠꯂꯛꯂꯤ꯫ ꯁꯣꯝꯗꯅ ꯑꯔꯥꯡꯐꯝꯁꯨ ꯋꯥꯔꯧꯗꯕ ꯅꯠꯇꯦ, ꯗꯈꯤꯅ ꯆꯥꯎꯅ ꯂꯧꯔꯤ꯫ ꯇꯧꯖꯁꯅꯨ ꯇꯧ ꯉꯝꯕ ꯃꯈꯣꯏꯅ, ꯇꯧꯕ ꯉꯝꯗꯕ AEi ꯈꯣꯏꯒꯤ ꯃꯇꯨꯡ ꯏꯟꯕꯒꯤ ꯃꯊꯧ ꯇꯥꯗꯦ꯫ ꯃꯔꯝꯗꯤ ꯚꯣꯠ ꯂꯦꯞꯗꯕ ꯃꯤꯑꯣꯏ ꯑꯣꯏꯔꯒꯅ ꯃꯍꯥꯛꯀꯤꯗꯤ ꯇꯧꯗ ꯌꯥꯗꯕꯅꯤ, ꯃꯤꯌꯥꯝꯕꯨ ꯄꯦꯜꯍꯟꯕ, ꯃꯈꯣꯏꯕꯨ ꯃꯁꯛ ꯇꯥꯛꯄ, ꯈꯪꯍꯟꯕ ꯇꯥꯕꯅꯤ꯫ ꯍꯧꯖꯤꯛꯀꯤ ꯃꯇꯝꯁꯤꯗ ꯂꯥꯛꯂꯤꯕ ꯚꯥꯕꯣꯛ ꯈꯨꯗꯤꯡꯃꯛ ꯁꯦꯜ ꯊꯥꯗꯕ ꯌꯥꯗꯦ ꯍꯥꯏꯕꯒꯤ ꯆꯠꯅꯕꯤ ꯑꯃ ꯑꯣꯏꯅ ꯀꯟꯅ ꯆꯠꯅꯈꯠꯂꯛꯂꯤ꯫ ꯃꯁꯤ ꯑꯔꯥꯟꯕ ꯋꯥꯈꯜꯅꯤ꯫ ꯃꯇꯥꯡ ꯑꯁꯤꯗ ꯀꯣꯚꯤꯗ-19ꯅ ꯑꯃꯔꯣꯝꯗ ꯃꯤꯕꯨ ꯀꯜꯂꯤ, ꯃꯤꯕꯨ ꯁꯤꯕꯒꯤ ꯃꯁꯤꯡꯅ ꯃꯥꯡꯍꯟꯈ꯭ꯔꯕꯁꯨ꯫ ꯃꯅꯤꯄꯨꯔꯒꯤ ꯍꯔꯥꯎ ꯀꯨꯝꯃꯩ, ꯂꯨꯍꯣꯡꯕ, ꯁꯣꯔꯥꯠ, ꯆꯥꯛꯆꯥ ꯍꯩꯖꯥꯅꯕ, ꯅꯥꯍꯨꯠ, ꯅꯒꯨꯟ ꯊꯥꯡꯕ, ꯐꯤꯔꯣꯏ, ꯎꯠꯁꯕ ꯇꯧꯗ-ꯌꯥꯗꯕ ꯈꯔꯗꯪ ꯇꯧꯔꯒ ꯄꯨꯡꯁꯤꯡ ꯇꯦꯟꯅ ꯄꯥꯡꯊꯣꯛꯄ ꯌꯥꯝꯅ ꯀꯥꯅꯈꯤ ꯈꯟꯖꯩ꯫ ꯀꯣꯚꯤꯗ-19 ꯅꯪꯁꯨ ꯚꯣꯠ ꯂꯦꯄꯀꯗꯧꯔꯤꯕꯔꯥ, ꯚꯣꯠ ꯊꯥꯗꯕ ꯌꯥꯎꯗꯣꯔꯤꯕꯔꯥ ꯄꯣꯂꯤꯇꯤꯛꯁꯇ ꯃꯥꯏ ꯑꯣꯟꯁꯤꯜꯂꯛꯄꯒꯨꯝ ꯇꯧꯔꯤ꯫ ꯚꯣꯠꯁꯤ ꯂꯣꯏꯈ꯭ꯔꯒꯅ ꯅꯍꯥꯛꯅ ꯀꯔꯝꯕ ꯐꯤꯚꯝꯗ ꯂꯥꯛꯀꯗꯧꯔꯤꯕ ꯀꯤꯗꯕ ꯉꯝꯗꯦ꯫ ꯄꯨꯝꯅꯃꯛꯁꯤ ꯑꯩ ꯏꯁꯥꯅ ꯏꯁꯥꯕ u ꯋꯥꯈꯜ ꯇꯥꯗ꯭ꯔꯕꯗꯤ ꯀꯔꯤꯒ ꯀꯥꯅꯕ ꯐꯪꯂꯣꯏ꯫
ꯀꯣꯚꯤꯗꯁꯨ ꯀꯣꯚꯤꯗ ꯑꯣꯏꯅ ꯑꯗꯨꯝ ꯂꯩꯖꯔꯁꯅꯨꯃ ꯊꯝꯕꯥꯜꯁꯨ ꯊꯝꯕꯥꯜ ꯑꯣꯏꯅ ꯏꯌꯥꯏꯗ saTun ꯂꯩꯖꯔꯁꯅꯨ꯫ ꯚꯣꯠ ꯇꯣꯛꯂꯁꯤ, ꯃꯈꯣꯏ ꯍꯨꯝꯐꯨꯅ ꯇꯧꯕ ꯀꯨꯝꯍꯩ ꯌꯦꯡꯂꯁꯤ꯫ ꯏꯔꯩꯕꯥꯛꯄꯨ ꯅꯨꯡꯁꯤꯕ, ꯃꯁꯥꯒꯤ
ꯑꯣꯏꯖꯕ ꯊꯥꯗꯣꯛꯄ, ꯑꯍꯤꯡꯁ ꯄꯨꯔꯛꯄ ꯉꯝꯕ ꯌꯥꯎꯕꯔꯥ ꯌꯦꯡꯂꯁꯤ꯫ ꯑꯉꯥꯎꯕꯤꯒꯤ ꯆꯣꯏꯔꯣꯜꯅꯤ
ꯈꯟꯕꯤꯌꯨ, ꯋꯥꯔꯧꯕꯤꯒꯅꯨ, ꯂꯥꯜꯂꯕꯁꯨ ꯉꯥꯛꯄꯤꯌꯨ꯫
ꯑꯗꯣꯝꯒꯤ - ꯀꯦ ꯃꯦꯃꯥ, ꯎꯔꯤꯄꯣꯛ ꯕꯥꯆꯁꯄꯇꯤ ꯂꯩꯀꯥꯏ, ꯏꯝꯐꯥꯜ

- ꯆꯤꯡꯁꯨꯕꯝ ꯁ꯭ꯌꯥꯝꯖꯥꯏ -

ꯇꯨꯡꯂꯝꯆꯠꯀꯤꯗꯃꯛ ꯆꯥꯎꯈꯠ ꯈꯣꯡꯊꯥꯡ - 2
ꯑꯦꯗꯤꯇꯔꯗ ꯊꯥꯔꯛꯄ ꯋꯥꯀꯠ, ꯃꯤꯌꯥꯝꯒꯤ ꯈꯣꯜꯂꯥꯎ, ꯄꯥꯎꯗꯝ ꯑꯃꯁꯨꯡ ꯑꯇꯩ-ꯑꯇꯩ
ꯑꯣꯏꯔꯣꯝꯗꯒꯤ 4 Joshua Bongard, Michael Levin, Douglas Blackiston ꯑꯃꯁꯨꯡꯈꯥꯃ Kriegman

ꯃꯆꯥ ꯑꯣꯏꯔꯛꯀꯗꯧꯔꯤꯕ
ꯁ꯭ꯇꯦꯝ ꯁꯦꯜꯁꯤꯡ
ꯑꯏ-ꯗꯤꯖꯥꯏꯟ ꯇꯧꯔꯕ Pac-Man
ꯃꯑꯣꯡꯒꯤ “ꯄꯦꯔꯦꯟꯠ”
ꯑꯣꯔꯒꯥꯅꯤꯖꯝ