**REPORT MACHINE LEARNING ASSIGNMENT 3**

**Finding the Best Configuration**

| **Number of Components** | **Accuracy** |
| --- | --- |
| 2 | 0.5428571428571428 |
| 7 | 0.7142857142857143 |
| 9 | 0.5714285714285714 |
| **11** | **0.7285714285714285** |
| 21 | 0.7 |

**Sampling from the HMM**

**Sample Generated from all class models**

| **[[0.59939656 0.55518292 0.49861094 0.63656821]**  **[0.50937913 0.46897665 0.62004168 0.56424162]**  **[0.8036491 0.75540296 0.77607322 0.83909468]**  **[0.72089169 0.6669193 0.69775956 0.66475051]**  **[0.71734487 0.69793701 0.67095027 0.71316927]**  **[0.71988682 0.70137253 0.67910267 0.71505398]**  **[0.76534875 0.6830774 0.69594896 0.66495188]**  **[0.71859947 0.67447748 0.73167842 0.67201163]**  **[0.72386501 0.6919276 0.66946839 0.70939168]**  **[0.69747585 0.70846142 0.72022896 0.65688643]**  **[0.78812998 0.7784702 0.77330542 0.79259714]**  **[0.74938194 0.80239427 0.7586687 0.79187815]**  **[0.73830867 0.82086742 0.7740004 0.78539361]**  **[0.78660783 0.71592186 0.74723134 0.83740223]**  **[0.9152396 0.84482745 0.88932265 0.90894603]**  **[0.90929865 0.91339058 0.91521129 0.90885796]**  **[0.82254224 0.971468 0.95973033 0.86872355]**  **[0.90924391 0.96124264 0.8988902 0.90269133]**  **[0.86943417 0.81343231 0.79268165 0.85157797]**  **[0.89749758 0.83214144 0.91038988 0.86288788]**  **[0.92972638 0.93669726 0.88919812 0.91954269]**  **[0.45903685 0.56067186 0.66160546 0.58341759]**  **[0.55084402 0.48358602 0.52348891 0.53027696]**  **[0.45854795 0.55121871 0.4942766 0.70927251]**  **[0.50119733 0.6655656 0.58003941 0.53586247]**  **[0.52196108 0.60061447 0.56326411 0.57393375]**  **[0.56442411 0.54170658 0.49661013 0.58208986]**  **[0.58353193 0.54616413 0.58374893 0.44913779]**  **[0.65577349 0.64040172 0.69564686 0.70677211]**  **[0.68785944 0.69872582 0.68322952 0.67192228]** | **Model 1 samples** |
| --- | --- |
| **[[0.36234174 0.35486572 0.41426755 0.38966161]**  **[0.4133979 0.4007186 0.36313781 0.42659086]**  **[0.58213048 0.53102708 0.61403838 0.63582232]**  **[0.67920874 0.74129374 0.69457346 0.75106451]**  **[0.68841259 0.76838057 0.67753481 0.65080025]**  **[0.93445343 0.91338729 0.92981842 0.89425213]**  **[0.99716429 0.84428343 0.94592595 0.90995104]**  **[0.86601906 0.95167707 0.98079082 0.89278602]**  **[0.95835837 0.94613094 1.0140168 0.87462174]**  **[0.88885351 0.95409872 0.9712853 0.86552517]**  **[0.94383139 0.87841461 0.96213845 0.92109496]**  **[0.96449351 0.8964439 0.875851 0.9313752 ]**  **[0.86033424 0.8787334 0.89770238 0.95131902]**  **[0.8884335 0.91787953 0.90548386 0.99937059]**  **[0.91325917 0.9638524 0.93354249 0.86741351]**  **[0.90500248 0.95108913 0.87392092 0.9155812 ]**  **[0.91030326 0.87588521 0.96606547 0.89142346]**  **[0.9395816 0.95892057 0.93506775 0.90707349]**  **[0.87261924 0.93342985 0.97088607 0.89137338]**  **[0.8718202 0.90565411 0.91069358 0.94869139]**  **[0.98560082 0.91049481 0.9325398 0.91446834]**  **[0.91347924 0.97515725 0.95052163 0.98787404]**  **[0.83995677 0.82377596 0.80229813 0.82308724]**  **[0.81300514 0.81092966 0.74698059 0.79348976]**  **[0.81892634 0.78881466 0.80350664 0.8014406 ]**  **[0.76295605 0.80730154 0.72346502 0.78954734]**  **[0.31764741 0.3651455 0.30029462 0.34958996]**  **[0.36856633 0.40758473 0.43361949 0.43217139]**  **[0.32915926 0.30696945 0.42305173 0.35592852]** | **Model 2 samples** |
| **[[ 8.21864915e-01 8.31884361e-01 9.18200718e-01 8.45913562e-01]**  **[ 8.96388537e-01 8.27757349e-01 8.84684783e-01 8.25755670e-01]**  **[ 8.04488159e-01 8.75022307e-01 8.31070365e-01 8.73719502e-01]**  **[ 8.34742124e-01 8.12874613e-01 8.42279071e-01 9.01341160e-01]**  **[-1.55447165e-03 -3.65555723e-03 1.91484077e-03 3.56287082e-03]**  **[-1.53344414e-03 1.22230448e-03 -3.58486299e-03 -6.89127988e-03]**  **[ 7.23724727e-01 7.34508242e-01 6.80696164e-01 6.37055419e-01]**  **[ 7.15992904e-01 7.35521259e-01 6.87829402e-01 6.87001105e-01]**  **[ 6.26278280e-01 6.22376595e-01 5.56171256e-01 5.71839191e-01]**  **[ 6.78241276e-01 6.31690361e-01 6.41664856e-01 5.90636638e-01]**  **[ 5.79130346e-01 6.94599136e-01 6.18562572e-01 5.98315138e-01]**  **[ 6.17808161e-01 6.32185342e-01 5.80869926e-01 6.50690316e-01]**  **[ 5.97106757e-01 6.23006915e-01 5.71078005e-01 6.39278644e-01]**  **[ 5.43943705e-01 6.05431237e-01 6.47133475e-01 6.54488414e-01]**  **[ 5.79327271e-01 6.74502874e-01 6.17988642e-01 5.43879022e-01]**  **[ 6.17513867e-01 5.67399812e-01 6.33219889e-01 6.57970119e-01]**  **[ 6.49295760e-01 6.25245298e-01 6.42077133e-01 5.18356263e-01]**  **[ 5.77892053e-01 6.48201851e-01 5.93615030e-01 6.54740732e-01]**  **[ 6.10156801e-01 6.50290620e-01 5.68491861e-01 5.69614433e-01]**  **[ 5.81876020e-01 6.59464109e-01 6.58473152e-01 6.41094178e-01]**  **[ 6.27530226e-01 6.16106999e-01 6.11063253e-01 5.18686347e-01]**  **[ 6.11785821e-01 6.15523697e-01 6.09431668e-01 5.66409610e-01]**  **[ 5.74895846e-01 6.16635975e-01 6.14196073e-01 6.52740493e-01]**  **[ 6.42134494e-01 6.29081785e-01 6.42891409e-01 5.76681099e-01]**  **[ 6.01508907e-01 5.92443558e-01 6.65153435e-01 6.51686568e-01]**  **[ 6.50840668e-01 5.83693672e-01 6.28917546e-01 5.53819363e-01]**  **[ 6.63818321e-01 6.07680139e-01 6.35426891e-01 7.79757252e-01]**  **[ 6.97635385e-01 6.44815696e-01 7.20377964e-01 6.64904960e-01]**  **[ 6.80342834e-01 6.98526332e-01 7.26381673e-01 6.43202318e-01]**  **[ 6.88119793e-01 6.61961507e-01 7.04832739e-01 7.44720557e-01]** | **Model 3 samples** |
| **[[ 6.13174205e-01 5.45592289e-01 5.86679753e-01 6.53753521e-01]**  **[ 6.31241906e-01 5.96846360e-01 6.29720173e-01 5.61945131e-01]**  **[ 5.85619668e-01 6.35929511e-01 5.94953599e-01 6.96733330e-01]**  **[ 5.50765508e-01 6.35071055e-01 6.42212732e-01 6.58491726e-01]**  **[ 6.13389893e-01 6.32645631e-01 6.61970825e-01 6.10621115e-01]**  **[ 6.38624271e-01 6.38370006e-01 6.39376440e-01 5.98487917e-01]**  **[ 6.63712323e-01 6.03876102e-01 5.82896062e-01 5.49935633e-01]**  **[ 6.30305901e-01 6.23643958e-01 6.28349614e-01 5.59964404e-01]**  **[ 5.63269955e-01 6.44264387e-01 5.91263413e-01 5.97638107e-01]**  **[ 5.93140571e-01 5.83197718e-01 5.96987736e-01 5.78414530e-01]**  **[ 5.85851832e-01 6.12475011e-01 5.75940441e-01 5.73190334e-01]**  **[ 6.37891591e-01 6.09296371e-01 6.16690777e-01 5.83853535e-01]**  **[ 7.56226204e-01 7.71405833e-01 7.52160793e-01 7.38672978e-01]**  **[ 7.46981505e-01 6.74350583e-01 7.55585442e-01 6.49348295e-01]**  **[ 6.95923300e-01 7.18404082e-01 7.36173379e-01 7.13744032e-01]**  **[-6.43319267e-05 1.96754494e-03 -2.68393098e-06 -3.21811422e-03]**  **[ 2.04229611e-03 3.56594684e-03 6.35043814e-03 1.29101940e-03]**  **[-4.62086291e-03 1.87550867e-03 -1.33307329e-02 -7.21792215e-03]**  **[-2.03785298e-03 -1.44864030e-03 -3.53389193e-03 -1.11692945e-03]**  **[ 3.61134787e-03 4.70448405e-04 1.84525726e-03 4.21114811e-03]**  **[-6.19231556e-03 4.04222377e-03 -1.67049973e-03 -2.26845908e-04]**  **[ 1.72480521e-03 4.73770674e-04 1.62873817e-03 7.54894365e-03]**  **[-3.10927661e-03 3.31941947e-03 -8.57611894e-03 -3.34035206e-03]**  **[ 1.78916623e-03 -5.65061764e-04 -5.10820215e-04 -2.76205479e-03]**  **[ 8.61856362e-05 2.47588963e-03 -7.96363783e-03 -7.28016479e-04]**  **[-5.17278185e-03 6.14851004e-03 -3.33334520e-03 4.20442635e-03]**  **[ 4.86955015e-01 4.56813803e-01 4.81965660e-01 4.32902643e-01]**  **[ 4.58377830e-01 5.36347058e-01 5.63118375e-01 4.43728731e-01]**  **[ 3.91970414e-01 5.33701441e-01 4.77284222e-01 4.25857819e-01]**  **[ 4.68092681e-01 4.92068183e-01 3.89613244e-01 4.78382777e-01]**  **[ 4.50918161e-01 4.64442623e-01 4.62501945e-01 4.81054308e-01]**  **[ 4.56058221e-01 4.76467527e-01 4.74758354e-01 4.84085620e-01]** | **Model 4 samples** |
| **[[ 6.08695671e-01 6.32569209e-01 6.14808036e-01 5.63392677e-01]**  **[ 5.79047239e-01 5.56830274e-01 5.82906118e-01 5.66160705e-01]**  **[ 5.84921860e-01 5.98985025e-01 5.53707128e-01 5.43576938e-01]**  **[ 5.95975357e-01 5.74329644e-01 5.86946470e-01 5.78464579e-01]**  **[ 6.26875557e-01 5.97950733e-01 6.20335403e-01 5.60823772e-01]**  **[ 6.94387542e-01 7.85939750e-01 5.80583280e-01 5.44032600e-01]**  **[ 6.92832358e-01 7.15717369e-01 7.43378360e-01 7.19076204e-01]**  **[ 7.19833321e-01 6.64315109e-01 7.56270917e-01 6.26990669e-01]**  **[ 7.72851177e-01 7.52009033e-01 8.63082033e-01 6.73189215e-01]**  **[ 9.29866021e-01 9.20824502e-01 8.68470381e-01 8.50952627e-01]**  **[ 8.89531947e-01 8.41052930e-01 8.38482561e-01 8.62424892e-01]**  **[ 1.94943409e-03 6.57538760e-03 1.56828979e-03 -7.79621945e-04]**  **[-3.27804136e-04 -4.93943422e-04 -3.29395205e-03 -4.49459385e-03]**  **[-8.54360221e-04 2.12954503e-03 -5.42257324e-04 3.73011319e-03]**  **[-1.77995950e-03 3.44007342e-03 1.09678016e-02 1.63698096e-03]**  **[-2.07858119e-03 -8.59276637e-03 -4.40257539e-03 -6.19615577e-03]**  **[ 1.75693072e-03 -4.36406134e-03 -1.35669125e-03 2.49219293e-03]**  **[ 1.44999041e-04 2.18521019e-03 6.85079803e-03 -8.94362932e-03]**  **[-1.51647508e-03 1.68954670e-03 2.31222104e-03 -7.28332816e-05]**  **[-1.61354807e-03 4.86234405e-03 -3.31640851e-04 -6.03974640e-03]**  **[ 6.31427250e-04 -9.97747294e-05 2.49184861e-03 2.32369538e-04]**  **[ 3.85773533e-04 4.03383627e-03 -1.82501842e-03 1.25041193e-03]**  **[ 2.90128384e-03 -1.21775057e-03 -1.59527628e-03 -2.40037576e-03]**  **[ 1.78407032e-03 -2.45298708e-03 1.26926987e-03 -1.02360047e-03]**  **[-2.33963015e-03 1.72799438e-03 -2.98010682e-04 -2.18040079e-03]**  **[-2.04001356e-03 2.27059363e-03 4.61525546e-04 2.21775340e-03]**  **[-6.31078160e-03 1.33702783e-03 3.48835586e-03 6.25667235e-03]**  **[-5.00428697e-03 -1.11767222e-03 -1.91420980e-03 -5.35036390e-03]**  **[-6.86325708e-03 -1.46501186e-03 2.83247388e-03 3.15061503e-03]**  **[-9.24228907e-03 1.96057712e-03 -1.66774612e-03 5.08568725e-03]**  **[ 5.58218236e-03 1.25287911e-03 -2.24364099e-03 2.94181667e-03]**  **[-1.64700809e-03 4.94963819e-04 2.93276040e-03 -4.62531516e-03]**  **[ 6.56354803e-03 8.40200616e-03 1.69854184e-03 1.00671079e-03]**  **[ 6.60903751e-01 4.93801975e-01 6.27270459e-01 4.15447403e-01]**  **[ 9.59573185e-01 8.69001715e-01 8.60696035e-01 7.46500247e-01]**  **[ 8.63803521e-01 8.15441670e-01 8.43851615e-01 7.53899128e-01]**  **[ 9.68881458e-01 8.52308807e-01 9.65484808e-01 9.63172096e-01]**  **[ 8.56684936e-01 8.24297056e-01 9.57286088e-01 7.31531274e-01]**  **[ 6.58318067e-01 7.06451567e-01 6.96587921e-01 7.31950601e-01]**  **[ 7.47106893e-01 7.70218726e-01 8.28854592e-01 7.34945876e-01]**  **[ 6.64452496e-01 7.06870203e-01 7.00539204e-01 5.76713417e-01]**  **[ 6.38360889e-01 6.77826932e-01 8.68905049e-01 6.77432146e-01]**  **[ 6.95164291e-01 6.97555809e-01 6.78941072e-01 5.46522829e-01]**  **[ 7.13913333e-01 7.21321639e-01 7.47041881e-01 5.15890661e-01]**  **[ 6.97146963e-01 7.09520831e-01 7.61167350e-01 6.62664180e-01]**  **[ 6.91627400e-01 7.10774703e-01 6.09954423e-01 6.45497057e-01]**  **[ 7.81080281e-01 7.19156654e-01 7.79092564e-01 7.11117452e-01]**  **[ 7.35302284e-01 6.37197510e-01 6.54334631e-01 7.94170124e-01]**  **[ 1.64993622e-03 -1.97812427e-03 -2.35870723e-03 1.05417885e-03]**  **[ 1.28962749e-03 5.55761876e-03 -4.00373025e-03 -3.43460492e-03]**  **[-3.04221256e-03 -2.14499861e-03 -3.66073764e-03 1.09030600e-03]**  **[-2.19653557e-03 -1.66761992e-03** | **Model 5 samples** |
| **[[ 6.96474683e-01 6.79641272e-01 7.26769181e-01 6.79000663e-01]**  **[ 7.00126711e-01 7.11913640e-01 7.09529132e-01 6.71814309e-01]**  **[ 6.90411526e-01 7.06153180e-01 6.90830534e-01 6.70453935e-01]**  **[ 7.24729240e-01 7.03175651e-01 7.13504187e-01 6.66620141e-01]**  **[ 7.20483259e-01 7.02072634e-01 6.75622106e-01 6.93506995e-01]**  **[ 7.07912168e-01 6.84647267e-01 7.29767194e-01 7.01710361e-01]**  **[ 6.63831316e-01 6.81766277e-01 6.77067471e-01 7.53068515e-01]**  **[ 7.45308224e-01 7.42657960e-01 7.76606393e-01 7.68293231e-01]**  **[ 7.75711008e-01 7.35028868e-01 7.53993468e-01 6.47987740e-01]**  **[ 5.17421999e-01 6.54912004e-01 1.79566606e-01 7.05810352e-01]**  **[ 3.85839349e-01 3.14421633e-01 8.84473832e-01 9.70467471e-01]**  **[ 5.83004464e-01 6.34196017e-01 3.80919704e-01 8.32867918e-01]**  **[ 6.14887746e-01 6.60394881e-01 5.80150424e-01 6.08746045e-01]**  **[ 6.38248155e-01 6.26272913e-01 6.46652089e-01 5.98267793e-01]**  **[ 6.37510927e-01 6.95109196e-01 6.64513206e-01 6.71664906e-01]**  **[ 6.28682657e-01 6.40879314e-01 6.50194966e-01 6.60776188e-01]**  **[ 6.01012398e-01 6.21021297e-01 6.45439863e-01 6.37357907e-01]**  **[ 6.80436064e-01 7.49578049e-01 6.84219628e-01 6.69772211e-01]**  **[ 6.84978404e-01 6.57476657e-01 7.01592409e-01 7.03873016e-01]**  **[ 7.02462790e-01 6.22787716e-01 7.25617706e-01 6.96977525e-01]**  **[ 6.80398686e-01 6.65353592e-01 6.87838638e-01 6.58766170e-01]**  **[ 7.39685931e-01 7.55341590e-01 7.37319325e-01 6.97531773e-01]**  **[ 7.88318601e-01 7.81285731e-01 8.85359697e-01 7.28609287e-01]**  **[ 6.73349152e-01 7.05330347e-01 6.80178099e-01 7.52687664e-01]**  **[ 7.00591114e-01 6.83414370e-01 7.05028733e-01 7.13690130e-01]**  **[ 6.83613835e-01 6.63839601e-01 7.05509642e-01 6.28249443e-01]**  **[ 7.25985099e-01 7.48879808e-01 7.21634334e-01 7.09795047e-01]**  **[ 6.60066636e-01 6.71928477e-01 6.99565923e-01 7.50043211e-01]**  **[ 7.11353836e-01 7.19001952e-01 7.49299042e-01 7.52139098e-01]**  **[ 7.75113845e-01 7.66934120e-01 8.20535924e-01 7.40080306e-01]**  **[ 8.17450386e-01 7.34707413e-01 8.45336209e-01 8.77651724e-01]**  **[ 8.03827047e-01 7.47517896e-01 8.01085820e-01 7.27839008e-01]**  **[ 8.10949010e-01 7.99111286e-01 7.81082545e-01 8.20613753e-01]**  **[ 8.24817346e-01 7.43237780e-01 8.00481090e-01 8.38959131e-01]**  **[ 8.48769408e-01 7.59537419e-01 8.17410718e-01 8.39740776e-01]**  **[ 8.15563278e-01 7.35311652e-01 7.76599105e-01 7.66391413e-01]**  **[ 7.80706482e-01 8.23645273e-01 8.42322836e-01 7.32370632e-01]**  **[ 8.16376752e-01 8.38220133e-01 7.06896008e-01 8.71484518e-01]**  **[ 8.09296185e-01 8.07135800e-01 8.41296829e-01 8.75751736e-01]**  **[ 8.52998632e-01 8.42626748e-01 7.56505220e-01 8.43056715e-01]**  **[-1.17841851e-03 8.18351235e-05 1.71802298e-04 1.68251949e-03]**  **[-7.07890950e-03 -4.37241689e-03 5.12264123e-03 6.46182331e-04]**  **[ 3.57123594e-03 -2.00678145e-03 4.95828516e-03 -1.95376036e-03]**  **[ 6.88182783e-01 7.73274424e-01 7.49699491e-01 6.78295950e-01]**  **[ 7.38158943e-01 7.14943402e-01 7.31386068e-01 7.79062651e-01]**  **[ 7.39244319e-01 7.14489599e-01 7.36135188e-01 8.51032167e-01]**  **[ 7.69867409e-01 7.56332775e-01 7.69824538e-01 6.80808169e-01]**  **[ 7.49906786e-01 7.35913108e-01 7.62078222e-01 7.48835307e-01]**  **[ 7.11857068e-01 7.43714526e-01 7.53122786e-01 6.35499332e-01]**  **[ 7.85738571e-01 8.60348973e-01 7.69538190e-01 7.91940616e-01]**  **[ 7.89154839e-01 7.43432887e-01 8.08887623e-01 8.51526652e-01]**  **[ 8.28349182e-01 8.15014993e-01 8.10238674e-01 7.67303554e-01]**  **[ 7.94586062e-01 7.41466096e-01 7.89429960e-01 7.94397288e-01]**  **[ 8.21128560e-01 8.16570214e-01 9.03009611e-01 7.90849367e-01]**  **[ 8.03818276e-01 7.34644074e-01 7.71483853e-01 8.50861868e-01]**  **[ 8.03619342e-01 7.96859369e-01 8.64358486e-01 7.56537464e-01]**  **[ 7.93893089e-01 7.79252259e-01 8.46793577e-01 7.56484314e-01]**  **[ 7.77485574e-01 8.61214504e-01 7.63075982e-01 7.64816288e-01]** | **Model 6 samples** |
| **[ 6.38248155e-01 6.26272913e-01 6.46652089e-01 5.98267793e-01]**  **[ 6.37510927e-01 6.95109196e-01 6.64513206e-01 6.71664906e-01]**  **[ 6.28682657e-01 6.40879314e-01 6.50194966e-01 6.60776188e-01]**  **[ 6.01012398e-01 6.21021297e-01 6.45439863e-01 6.37357907e-01]**  **[ 6.80436064e-01 7.49578049e-01 6.84219628e-01 6.69772211e-01]**  **[ 6.84978404e-01 6.57476657e-01 7.01592409e-01 7.03873016e-01]**  **[ 7.02462790e-01 6.22787716e-01 7.25617706e-01 6.96977525e-01]**  **[ 6.80398686e-01 6.65353592e-01 6.87838638e-01 6.58766170e-01]**  **[ 7.39685931e-01 7.55341590e-01 7.37319325e-01 6.97531773e-01]**  **[ 7.88318601e-01 7.81285731e-01 8.85359697e-01 7.28609287e-01]**  **[ 6.73349152e-01 7.05330347e-01 6.80178099e-01 7.52687664e-01]**  **[ 7.00591114e-01 6.83414370e-01 7.05028733e-01 7.13690130e-01]**  **[ 6.83613835e-01 6.63839601e-01 7.05509642e-01 6.28249443e-01]**  **[ 7.25985099e-01 7.48879808e-01 7.21634334e-01 7.09795047e-01]**  **[ 6.60066636e-01 6.71928477e-01 6.99565923e-01 7.50043211e-01]**  **[ 7.11353836e-01 7.19001952e-01 7.49299042e-01 7.52139098e-01]**  **[ 7.75113845e-01 7.66934120e-01 8.20535924e-01 7.40080306e-01]**  **[ 8.17450386e-01 7.34707413e-01 8.45336209e-01 8.77651724e-01]**  **[ 8.03827047e-01 7.47517896e-01 8.01085820e-01 7.27839008e-01]**  **[ 8.10949010e-01 7.99111286e-01 7.81082545e-01 8.20613753e-01]**  **[ 8.24817346e-01 7.43237780e-01 8.00481090e-01 8.38959131e-01]**  **[ 8.48769408e-01 7.59537419e-01 8.17410718e-01 8.39740776e-01]**  **[ 8.15563278e-01 7.35311652e-01 7.76599105e-01 7.66391413e-01]**  **[ 7.80706482e-01 8.23645273e-01 8.42322836e-01 7.32370632e-01]**  **[ 8.16376752e-01 8.38220133e-01 7.06896008e-01 8.71484518e-01]**  **[ 8.09296185e-01 8.07135800e-01 8.41296829e-01 8.75751736e-01]**  **[ 8.52998632e-01 8.42626748e-01 7.56505220e-01 8.43056715e-01]**  **[-1.17841851e-03 8.18351235e-05 1.71802298e-04 1.68251949e-03]**  **[-7.07890950e-03 -4.37241689e-03 5.12264123e-03 6.46182331e-04]**  **[ 3.57123594e-03 -2.00678145e-03 4.95828516e-03 -1.95376036e-03]**  **[ 6.88182783e-01 7.73274424e-01 7.49699491e-01 6.78295950e-01]**  **[ 7.38158943e-01 7.14943402e-01 7.31386068e-01 7.79062651e-01]**  **[ 7.39244319e-01 7.14489599e-01 7.36135188e-01 8.51032167e-01]**  **[ 7.69867409e-01 7.56332775e-01 7.69824538e-01 6.80808169e-01]**  **[ 7.49906786e-01 7.35913108e-01 7.62078222e-01 7.48835307e-01]**  **[ 7.11857068e-01 7.43714526e-01 7.53122786e-01 6.35499332e-01]**  **[ 7.85738571e-01 8.60348973e-01 7.69538190e-01 7.91940616e-01]**  **[ 7.89154839e-01 7.43432887e-01 8.08887623e-01 8.51526652e-01]**  **[ 8.28349182e-01 8.15014993e-01 8.10238674e-01 7.67303554e-01]**  **[ 7.94586062e-01 7.41466096e-01 7.89429960e-01 7.94397288e-01]**  **[ 8.21128560e-01 8.16570214e-01 9.03009611e-01 7.90849367e-01]**  **[ 8.03818276e-01 7.34644074e-01 7.71483853e-01 8.50861868e-01]**  **[ 8.03619342e-01 7.96859369e-01 8.64358486e-01 7.56537464e-01]**  **[ 7.93893089e-01 7.79252259e-01 8.46793577e-01 7.56484314e-01]**  **[ 7.77485574e-01 8.61214504e-01 7.63075982e-01 7.64816288e-01]**  **[ 2.07531826e-03 -5.81529145e-03 1.97933677e-04 -2.23461470e-03]**  **[ 4.14314770e-03 -3.16268973e-03 -5.71998759e-03 3.94406131e-03]**  **[ 2.81446944e-03 -3.54191391e-03 2.63059767e-03 -8.35091950e-04]**  **[-1.70566969e-03 -1.65820907e-03 5.04018685e-03 -8.58534520e-04]**  **[ 5.58142296e-03 -5.11477510e-03 -5.56475931e-03 -4.16248362e-04]**  **[ 6.14664082e-01 6.67023885e-01 6.78110105e-01 6.24781869e-01]**  **[ 6.52972717e-01 5.95977187e-01 6.54177846e-01 6.58005978e-01]**  **[ 6.62967228e-01 6.45909751e-01 6.68129404e-01 6.35850726e-01]**  **[ 7.02730636e-01 7.16715667e-01 6.68613923e-01 6.87069195e-01]**  **[ 7.52753543e-01 7.68846197e-01 7.48277936e-01 7.32270228e-01]**  **[ 7.02377276e-01 7.45561115e-01 7.36284191e-01 8.74899013e-01]**  **[ 7.31837732e-01 7.59405371e-01 7.69730993e-01 7.50400557e-01]**  **[ 8.38910351e-01 7.99068388e-01 7.77808034e-01 7.81790921e-01]**  **[ 7.86131367e-01 7.66999525e-01 7.09176187e-01 7.51773215e-01]**  **[ 8.13283404e-01 8.38955565e-01 7.50844036e-01 7.26843117e-01]**  **[ 8.02178590e-01 8.05900169e-01 7.24273041e-01 8.44306378e-01]**  **[ 8.73656561e-01 7.78638199e-01 7.92398081e-01 7.89778653e-01]**  **[ 7.75613267e-01 7.84526615e-01 7.56097776e-01 8.19819762e-01]**  **[ 8.38176294e-01 7.81208610e-01** | **Model 7 samples** |